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ELECTORAL TURNOVERS

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ABSTRACT

In most national elections, voters face a key choice between continuity and change. Electoral turnovers occur when the incumbent candidate or party fails to win reelection. To understand how turnovers affect national outcomes, we study the universe of presidential and parliamentary elections held since 1945. We document the prevalence of turnovers over time and estimate their effects on economic performance, trade, human development, conflict, and democracy. Using a close-elections regression discontinuity design (RDD) across countries, we show that turnovers improve country performance. These effects are not driven by differences in the characteristics of challengers, or by the fact that challengers systematically increase the level of government intervention in the economy. Electing new leaders leads to more policy change, it improves governance, and it reduces perceived corruption, consistent with the expectation that recently elected leaders exert more effort due to stronger reputation concerns.

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1 Introduction

In most societies, voting incumbents out is the only mechanism allowing citizens to peacefully replace their country's leadership. For this reason, electoral turnovers are fundamental to the functioning of democracy, which Przeworski (1991) characterized as "a system in which parties lose elections." Despite this, economists have given little attention to the consequences of electoral turnovers at the national level. Assessing the costs and benefits of turnovers is particularly relevant to current debates on the merits of democracy prompted by democratic backsliding in many countries (Levitsky and Ziblatt, 2019).

This paper asks how power transitions caused by national elections shape country performance. Jones and Olken (2005) showed that, in autocracies, new leaders appointed after the death of their predecessor can change the growth trajectory of nations. Electoral turnovers could give new impetus to a country's performance by bringing to power new leaders facing stronger reelection incentives and reputation concerns (Holmström, 1999; Ashworth, 2005). The related literature has focused on one specific mechanism, the effects of term limits on the performance of local politicians (Ferraz and Finan, 2011), but there is no comparable evidence at the country level. At the same time, the loss of political experience (Alt et al., 2011), the personnel instability (Akhtari et al., 2022), and the policy uncertainty (Alesina et al., 1996; Horowitz et al., 2009) created by turnovers could be detrimental to economic performance.

To explore the impacts of power transitions caused by elections, we build a new dataset of national election results. Our dataset, assembled through a systematic process of identifying and validating available sources of electoral results, includes the universe of presidential and parliamentary elections held around the world since 1945. We estimate the impact of electing a challenger versus that of reelecting the incumbent on several dimensions of country performance, using a regression discontinuity design (RDD) across countries. Electoral turnovers are not random events and in particular may be more likely to occur after an economic downturn, making it difficult to attribute post-election differences in performance to the electoral outcome (Brender and Drazen, 2008; Fair, 2009; Nunn et al., 2018). By focusing on close elections in which the incumbent narrowly won or lost, our empirical strategy addresses this concern. Our paper is among the first to implement a close-elections RDD in a cross-country setting.[1]

We define an electoral turnover as an electoral defeat of the incumbent candidate or party, namely an election where the candidate of the incumbency fails to secure a plurality of votes (in presidential elections) or a plurality of seats (in parliamentary elections). We identify an incumbent candidate or party across 2,489 national elections, including 1,817 parliamentary elections and 672 presidential elections. These elections constitute the main sample for our analysis. Figures 1 and 2 show the worldwide prevalence of electoral turnovers since 1945. The frequency of turnovers at the national level has increased sharply since the early 1990s and averages 40% in recent years.

Electoral turnovers potentially affect a large number of outcomes, raising the problem of multiple testing. To minimize the risk of finding false positives, our analysis focuses on an index of economic performance as well as four wide-ranging outcomes: international trade, human development, peace, and the quality of democracy. We follow Kling et al. (2007) to compute the economic index (which is the average of standardized GDP growth, inflation, and unemployment) and a general index of country performance combining all these outcomes. To construct these indicators, we identified relevant variables

[1]One exception is Girardi (2020), who estimates the stock market impacts of partisanship across 758 national elections.

from a wide range of administrative sources, prioritizing sources with the best reliability and coverage.[2]

We show that turnovers positively affect the performance of countries along multiple dimensions. An electoral defeat of the national incumbent results in a 0.28 standard deviation (SD) improvement in economic performance and a 0.20 SD improvement in our general index of country performance. These effects are large in magnitude, robust to a range of robustness checks, and materialize gradually over time. The impact on our general index is larger in presidential elections than in parliamentary elections, and larger in non-OECD countries relative to OECD countries, but the point estimates are positive and sizeable in all these subsamples, and differences across subsamples are generally non-significant.

The effects of electoral turnovers are partly driven by turnovers in the executive branch in both presidential systems, where the victory of a challenger generally leads to a power transition, and parliamentary systems. In the latter, we show that a defeat of the incumbent party leads to a discontinuous increase in the likelihood of a turnover in the executive branch. Having documented this relationship, we show that executive turnovers improve a country's index of performance by 0.24 SD. Furthermore, turnovers matter more when the member of the executive appointed following the election has more power, and when there are fewer internal and external constraints on the executive, such as institutional checks and balances and exposure to globalization.

Our identification of the causal effects of turnovers assumes that elections won by the incumbent are ex ante comparable to elections won by the challenger. One important concern involves the potential ability of incumbents to manipulate election results. Under such manipulation, any effects of turnovers on performance could be driven by unobservable differences between elections that lead to a turnover, and those that do not. We present various identification checks to validate our empirical strategy, including the local polynomial density test from Cattaneo et al. (2018) to detect manipulation of the running variable (the victory margin of the challenger) in close national elections, and the permutation test from Canay and Kamat (2017). We also show that a range of baseline covariates are continuous across the RD cutoff. Finally, we obtain very similar results using the randomization inference estimation procedure from Cattaneo et al. (2015). With these identification checks, we extend to a cross-country setting the literature discussing the validity of RDDs in close elections (e.g., Eggers et al., 2015).

One question raised by our approach is whether the positive impacts of turnovers only hold for close national elections or extend more broadly to all national elections. Incumbents who struggle to win reelection may perform more poorly than the average incumbent, and weak incumbents may encourage the strategic entry of high-quality challengers (Gordon et al., 2007; Ban et al., 2016). By estimating the impact of turnovers in a sample of close elections, we may therefore be comparing unobservably low-quality incumbents to high-quality challengers. As long as the quality of candidates does not jump discontinuously at the RD cutoff, this is not a concern in terms of causal identification. However, it could mean that turnovers improve performance only when elections are close to begin with.

We conduct two exercises to show that the positive effect of turnovers likely extends away from the cutoff. First, we look at a subsample of national elections involving "unlucky incumbents," namely elections conducted in the aftermath of a global oil shock. Following Arezki et al. (2020), we use the fact that these elections are close not as a result of poor incumbent performance, but due to global macroe-

[2]We do not study the short-term response of financial markets to close national elections, which has been explored by papers focusing on the left-right divide (Snowberg et al., 2007; Girardi, 2020). Our analysis focuses on outcomes measured one to four years after the election.

conomic circumstances outside the incumbent's control. We show that our main results hold in this subsample. Second, we implement the statistical procedure from Angrist and Rokkanen (2015) to show that the positive effects of turnovers on performance also hold away from the RD cutoff.

We systematically investigate a range of potential mechanisms, following predictions from the literature. Citizen-candidate models predict that turnovers will affect policies if they bring to power new parties or leaders with different *characteristics* (Osborne and Slivinski, 1996; Besley and Coate, 1997). Besley et al. (2011) provide evidence for this channel at the country level, looking at leaders' education, and other recent papers study how certain types of leaders have affected national performance throughout history (Dube and Harish, 2020; Ottinger and Voigtländer, 2021). To understand whether differences in candidate characteristics are driving our results, we explore two hypotheses: (i) whether electoral turnovers bring to power leaders with different characteristics, and (ii) whether electing a leader with different characteristics affects country-level outcomes. We find little evidence in favor of the first hypothesis: the challengers who win close national elections are not disproportionately younger, more left-wing, more populist, or more illiberal.[3] Furthermore, the election of a candidate with those characteristics does not have a sizeable effect on country outcomes. For example, the close election of a left-wing leader has a -0.03 SD effect on our general index of performance, which falls well short of statistical significance. This null result contributes to a large literature on the impacts of partisanship at the subnational level, which has found mixed evidence (Pettersson-Lidbom, 2008; Ferreira and Gyourko, 2009; Folke, 2014; Beland, 2015; Fiva et al., 2018; Dynes and Holbein, 2020).

Even if candidate characteristics are not driving the positive impacts of turnovers, elected challengers could implement different *policies* once in office, relative to reelected incumbents. To explore this mechanism, we look at four measures of government intervention in the economy: government expenditure, tax revenue, national debt, and an index combining these three outcomes. Since we are agnostic about the sign of the relationship between government intervention and performance, we look at these measures both in levels (do electoral turnovers lead to more intervention?) and in absolute value of the differences relative to the previous term (do electoral turnovers lead to more change in intervention?). We find little evidence that turnovers affect the level of intervention. Electoral turnovers lead to a 0.08 SD increase in our index of intervention (non-significant). The effect on the *change* in intervention is larger in magnitude (0.20 SD), suggesting that electing challengers leads to more policy change.[4] This evidence adds to a literature exploring the relationship between political leadership and government intervention (Brender and Drazen, 2013; Blinder and Watson, 2016).

We then turn to accountability mechanisms to explain the poorer performance of reelected incumbents. Electoral turnovers improve the quality of governance and reduce the incidence of corruption, two standard measures of politician performance in the literature on political agency (Besley, 2007). Strikingly, turnovers have a large and robust negative effect on various measures of perceived corruption, including indices of accountability, executive corruption, public sector corruption, and the control of corruption measured across different data sources. These effects on corruption increase over time: chal-

[3] We do not explore the gender dimension because there are too few national elections involving female candidates in our sample. At the subnational level, various papers have estimated impacts of a leader's gender on policy outcomes (Chattopadhyay and Duflo, 2004; Clots-Figueras, 2011; Ferreira and Gyourko, 2014; Brollo and Troiano, 2016).

[4] In the Appendix, we also look at other measures of economic policy, including a measure of central bank independence and measures of financial liberalization. We find no robust evidence that turnovers affect these policies in levels, and mixed evidence in terms of effects measured in changes.

lengers become relatively less corrupt than reelected incumbents over the course of the subsequent term. These dynamic effects on corruption mirror the effects we find on our main outcomes of interest—i.e., the economic effects of turnovers also become more positive over time.

One explanation for this finding could be related to constitutional term limits, which are generally more binding for reelected incumbents than for leaders in their first term. Country leaders who will not stand for reelection as a result of *de jure* rules likely face fewer incentives to perform well in office (Ferraz and Finan, 2011; Fouirnaies and Hall, 2021). However, two sets of results indicate that this is likely not the main explanation driving our results. First, our main results hold in the subsample of parliamentary elections, where members of the executive designated by parliament generally do not face a term limit. Second, term limits are present and differentially binding for the incumbent and the challenger in only half of the presidential elections, and our results are robust to dropping those elections.

Even in the absence of term limits, several mechanisms involving reputation and reelection concerns could explain why challengers perform better than reelected incumbents. These potential mechanisms include the erosion of party discipline after some time spent in office, as well as learning in corruption, delayed corruption, and a more general deterioration of democratic norms which makes it harder to hold long-serving incumbents accountable.[5] All these mechanisms are consistent with a simple conceptual framework in which incumbent leaders and parties build reputation by exerting more effort early in their tenure (as in Ashworth, 2005), and use their later terms in office to extract rents. During each subsequent term in office, the disciplining effect of reelection incentives becomes weaker since the reputation of incumbents (individuals or parties) is already well established. Thus, electoral turnovers improve country performance by helping to replace poorly incentivized and low-performing incumbents with new national leaders facing greater incentives to deliver tangible benefits to their electorate.

Our results can also be interpreted in light of Olson (1984)'s seminal argument, itself echoing Hegel (1820), that stable societies eventually experience institutional sclerosis and economic stagnation, unlike societies that undergo deep structural changes as a result of wars and revolutions. While our analysis focuses primarily on power transitions occurring within a given set of institutions and political regime, it is possible that electoral turnovers also trigger a reshuffling of the governing elite and impede the formation of "distributional coalitions" which, in Olson's view, could undermine economic efficiency.

By providing the first estimates of the impact of national electoral turnovers, our paper relates to the vast literature on the economic impacts of democracy. Others have shown that democratization affects the pace of policy reforms (Papaioannou and Siourounis, 2008; Giuliano et al., 2013) and economic growth (Rodrik and Wacziarg, 2005; Acemoglu et al., 2019). We show that what matters for good performance is not just democracy, but a competitive electoral system allowing citizens to periodically replace their country's leadership. Furthermore, many regimes classified as "electoral autocracies" or "hybrid regimes" also hold regular elections (Guriev and Treisman, 2019). We focus on a phenomenon, electoral turnovers, which occurs across different types of political regimes—in our data, approximately 18% of close elections are held under non-democratic regimes. By studying the impact of political transitions induced by elections, our results extend beyond the literature on the impacts of democratization. Importantly, electoral turnovers do not lead to more democratization episodes or democratic reversals, and they also improve country performance when the election does not coincide with a regime change.

[5]The French language contains a phrase, *l'usure du pouvoir* (the erosion of power), describing this phenomenon.

The paper proceeds as follows. We describe our data and empirical strategy in Sections 2 and 3, respectively. Section 4 presents our main results and Section 5 discusses mechanisms. Section 6 concludes.

2 Key Data Sources

We draw upon a variety of data sources to analyze the impact of electoral turnovers. Our main dataset combines the results of all presidential and parliamentary elections conducted worldwide since 1945 with detailed data on economic performance, policy outcomes, leader characteristics, and regime types. This section provides a description of our data collection. We refer to Appendix A for additional details.

2.1 Data on Elections, Leaders, and Institutions

Elections and electoral results. Our complete dataset contains 4,072 national elections held since 1945, including 1,110 presidential elections and 2,962 parliamentary elections. For parliamentary elections, we include all unicameral parliaments as well as the lower chamber of bicameral parliaments. To construct this database, we proceed as follows. First, we identify the universe of national elections using the Varieties of Democracy (V-Dem) database (Coppedge et al., 2021) as our primary source. We complement V-Dem with the Parliaments and Governments (PARLGOV) database, the Manifesto Project, numerous handbooks by Dieter Nohlen and coauthors, the Database of Political Institutions (DPI) database, the Global Elections Database, and the Constituency-Level Elections Archive. Appendix A.1 provides a complete description of the data construction process and how we prioritize between data sources.

We then search for the results of each election. For this step, we rely on the aforementioned sources as well as Adam Carr's Psephos election archive, the African Elections Database, the European Elections Database, the Political Database of the Americas, the Inter-Parliamentary Union PARLINE database, the International Institute for Democracy and Electoral Assistance (IDEA) database, the International Foundation for Electoral Systems (IFES) election guide, and the National Archives presidential elections database. We prioritize sources which cover more elections, show fewer inconsistencies, and have been used more often in previous work.[6] Academic sources are lacking or incomplete for 13.7% of elections. In these cases, we collect the results from Wikipedia. Appendix Figure C.1 shows a comparison between our sample and preexisting databases as well as the number of elections collected from each source.

We collect data on vote shares for presidential elections and seat shares for parliamentary elections. We then systematically check data consistency within each source (see Appendix A.1.4). In collecting parliamentary election results, we take into account the existence of ex ante coalitions officially formed before the election, as described in Section 3.1 and Appendix A.1.3. Overall, we retrieve data on election results for 97% of presidential elections and 97% of parliamentary elections identified in the first step.

Leaders and their parties. We combine various sources to link election results with information on leaders and political parties. First, we identify a head of state (HOS) and a head of government (HOG) for each country-year in our data. We can pin down the precise dates (within a year) at which leaders took power for over 99.9% of observations at the country-year-leader type level. Appendix A.2 provides

[6] In particular, Nohlen's handbooks proved to be an invaluable source of election results—we digitized and standardized results presented in these books.

details on this dataset. We then associate parties in our database of election results with parties in V-Parties, another dataset provided by V-Dem. This dataset contains time-varying expert-coded measures of populism, illiberalism, and left-right ideology for a large number of political parties. Appendix A.3 describes this matching process. To retrieve data on the age of candidates, we link the main parties in parliamentary elections with their party leaders, and we link these leaders as well as candidates in presidential elections with demographic information from their Wikidata pages.[7]

Institutions and regimes. We also retrieve data on the regimes and constitutional rules under which national elections take place. First, using V-Dem as our primary source, we divide the post-WWII history of each country into regimes, allowing us to better understand the role of every election. Appendix A.4 describes the data on regimes. Second, we determine whether each election in our data led to the nomination of a HOS, a HOG, or none of the two. Appendix A.5 describes the rules used to determine the role of each election, as well as data quality checks. Third, we rely on the Comparative Constitutions Project (Elkins et al., 2021) to identify term limits. Appendix A.6 provides additional details.

2.2 Data on National Outcomes

In our analysis, we estimate the impact of electoral turnovers on measures of country performance falling into five broad categories: economic performance, international trade, human development, peace, and the quality of democracy.[8] A detailed description of the rules we used to select relevant variables under each category is provided in Appendix A.7. Here, we provide a brief description.

To measure economic performance, we use three indicators: GDP growth from the Penn World Tables (Feenstra et al., 2015),[9] CPI inflation from the IMF, and the unemployment rate from the International Labor Organization. For international trade, we construct a measure of trade intensity using the total value of imports and exports divided by GDP (measured by the World Bank). For human development, we use the Human Development Index (HDI) from the UNDP. We measure the incidence of conflict using the Correlates of War (COW) Project (Sarkees and Wayman, 2010; Palmer et al., 2015). Our conflict outcome is a dummy equal to 1 if the country experienced any inter-, intra-, or extra-state conflict in a given year, and 0 otherwise. Finally, we rely on V-Dem's measures of the quality of democracy, including deliberative, egalitarian, liberal, participatory, and electoral democracy. We use the simple average of these five measures (which all vary between 0 and 1) to quantify the quality of democracy. To avoid results being driven by outliers and measurement errors, variables that are the most volatile (GDP growth, inflation, unemployment, and trade intensity) are winsorized at the 3rd and 97th percentiles—we check the robustness to different winsorizing and to trimming. Table 1 indicates the timeframe and the total number of elections for which we have data on each outcome. Appendix Table D.1 shows that the fraction of observations with missing data is not significantly affected by the occurrence of an electoral turnover.

[7] Appendix Figure C.2 shows that we were able to match the vast majority of candidates with Wikidata.
[8] Appendix Tables E.15 to E.19 report results for a broader set of outcomes than those considered in our baseline analysis.
[9] We use version 9.0 of the Penn World Tables, which addresses the data issues highlighted by Johnson et al. (2013) (see Feenstra et al., 2015). In Appendix Table E.15, we show robustness to using alternative sources to measure GDP growth, including estimates from the World Bank.

3 Empirical Framework

This section presents our empirical strategy. We first define the key concepts of incumbency and electoral turnovers (Section 3.1). We then describe our sample (Section 3.2) and the construction of our outcome variables (Section 3.3). Section 3.4 presents our main empirical specification. Finally, we describe alternative specifications used to estimate the impact of turnovers in the executive branch (Section 3.5) and the effects of candidate and party characteristics (Section 3.6).

3.1 Defining Electoral Turnovers

Our analysis estimates the impacts of electoral turnovers using a RDD. To set up this design, we must identify which candidate or party represents the incumbency in each election. We then define electoral turnovers as a defeat of the candidate or party representing the incumbency. We create for each election a running variable X equal to the difference between the score of the challenger and the score of the incumbent, and a binary treatment variable T equal to 1 if X is positive and an electoral turnover occurs. This section describes how we construct these key variables for each type of election.

Presidential elections. In presidential elections, the incumbent candidate is the individual or party which effectively held power at the time the election took place. To account for caretaker governments and transition periods, we use a flexible definition: we define the incumbent as the leader who held executive power for a period of at least 365 days in the two-year period before the election. An incumbent party is analogously defined as the party which held executive power for at least 365 days during the same period. Panel (a) of Appendix Table C.1 illustrates the implementation of this rule.

To deal with elections where the incumbent does not individually compete but instead has a clear designated successor, we consider that the incumbency is represented by the following: (1) the incumbent leader, if the leader is personally competing (56.3% of cases); (2) the candidate of the incumbent party, if the leader is not personally competing (39.4% of cases); (3) the candidate unambiguously designated as the representative of the ruling government, if neither the country leader nor any candidate from their party are competing (4.3% of cases).[10] Elections in which we cannot define a candidate of the incumbency are excluded from the analysis.

We then construct a treatment variable T equal to 1 if the candidate of the incumbency fails to win the election. The running variable X is equal to the margin of victory of the best ranked challenger, which is the difference between this challenger's vote share and the incumbent's vote share. When the election features a runoff and the incumbent competed in the second round, we use the second round results to construct the running and treatment variables. If the incumbent candidate did not compete in the second round, we do not define a running variable. Furthermore, we exclude from the sample elections where one candidate ran unopposed or obtained 100% of the votes, elections which were not the last of their type in the calendar year, indirect presidential elections which could easily be manipulated because they involved several rounds of voting or the electoral college had less than 1,000 unpledged electors, as well as various types of inconsequential elections (Appendices B.1 and B.2 provide additional details).[11]

[10] When the election features two rounds, we check whenever possible that this support was expressed before the first round.
[11] In Appendix Figure D.1, we verify that electoral turnovers are not associated with a significantly different probability of

We checked the validity of our key variables through an independent audit encompassing all elections with a running variable X between -15 and +15 percentage points and a subset of other elections. Appendix A.8.4 provides additional details.

Parliamentary elections. In parliamentary elections, the incumbent party is defined as the party which secured a plurality of seats in the previous parliamentary election. Our definition is based on the results of the previous election because the available data do not systematically document how the composition of parliaments varies between national elections, for example through by-elections.[12] Furthermore, note that some parliamentary elections lead to the designation of a leader of the executive branch. Yet, our definition does not depend on this and is only based on seat shares, because the relative seat shares obtained by different parties may matter in and of themselves, independently of who controls the executive. Our definition allows us to include parliamentary elections which are not associated with the designation of a member of the executive and which may nonetheless be impactful, such as the elections to the lower chamber of parliament in presidential systems.

We set the treatment variable T equal to 1 if the incumbent party (the party that won a plurality of seats in the previous election) fails to secure again a plurality. The running variable X is equal to the margin of victory of the best-ranked opposition party, i.e., the difference between the seat share of this party and that of the incumbent party. Once again, we drop elections in which the incumbent party ran unopposed or obtained 100% of the seats, as well as elections to constitutional assemblies without any legislative power and elections where a fraction of parliamentary seats are appointed rather than elected, as described in Appendix B.1. In addition, we do not define a treatment variable when $X = 0$, which occurs when the incumbent and challenger parties obtain exactly the same number of seats.[13]

As with presidential elections, we account for cases where the incumbent party does not compete in the election but has a clear successor party. We also account for the existence of coalitions between parties. We collected systematic evidence to identify party coalitions and distinguish coalitions officially formed before the election (ex ante coalitions) from those formed after the election (ex post coalitions). To compute seat shares, we group together parties belonging to the same ex ante coalition (e.g., the CSU and CDU coalition in Germany) but we keep as separate the members of ex post coalitions, since these are endogenous to election results. Therefore, the candidate of the incumbency in parliamentary elections is represented by: (1) the incumbent party when it participates in the election, or alternatively the coalition of which the incumbent party is part of; (2) the party or coalition unambiguously designated as the representative of the ruling government if the incumbent party is not competing. As with presidential elections, we exclude elections in which we cannot define a party representing the incumbency. When identifying the previous election, we exclude inconsequential elections, constitutional assembly elections, and elections that are not the last parliamentary elections in a calendar year. We also impose

exclusion from the sample following an inconsequential election, using the empirical strategy described in Section 3.4. In Appendix Table E.1, we further show that our main results are robust to including inconsequential elections in our sample.

[12] In case of a tie in the previous election, we apply the following rule. If the election leads to the designation of a leader (typically the HOG), and the designated leader is affiliated to one of the tied parties, we define this leader's party as incumbent party. Else, we designate as incumbent party the party which won most votes. If the incumbent party was a coalition of several parties which split after the election, we consider as incumbent party the member of the coalition with most seats.

[13] There are 23 such elections in our data, including, e.g., the 2010 Australian federal election and the 1979 Swiss federal election.

that the previous election took place no more than 10 years earlier.[14]

3.2 Sample Description

Overall, we are able to identify an incumbent candidate (resp. incumbent party) and to define a running and treatment variable in 672 presidential elections (resp. 1,817 parliamentary elections). Accordingly, our main sample for the analysis includes a total of 2,489 national elections across 201 countries.[15] 59% of these elections are conducted under regimes classified as liberal or electoral democracies by V-Dem, and 41% under regimes classified as electoral or closed autocracies. 26% of elections in the main sample take place in OECD countries, and 74% in non-OECD countries. Close to the threshold, when the running variable is comprised between -5 and 5 percentage points, the fractions of elections in democracies and in OECD countries increase to 84% and 39%, respectively.

Figure 1 (a) shows the share of elections featuring an electoral defeat of the incumbency, worldwide and separately for OECD and non-OECD countries. Figure 2 shows the geographic distribution of all elections we identified over the period, as well as all elections included in our main analysis, and all elections with a turnover. Overall, the frequency of electoral turnovers hit a low point during the 1960s but has been increasing since the early 1990s. Today, around 40% of elections are associated with a turnover defined as an electoral defeat of the incumbency.

3.3 Outcome Variables

We explore how turnovers affect various outcomes at the national level. To compare the level of an outcome Y before and after an election E taking place in country c during year t_E, we compute the difference between the average level of Y in the four years following the election and the level of Y in the year before the election:

$$\underbrace{\Delta Y_E}_{\text{Improvement over the election cycle}} = \underbrace{\left(\frac{1}{k}\sum_{\tau=1}^{k} Y_{c,t_E+\tau}\right)}_{\text{Post-election average of the outcome}} - \underbrace{Y_{c,t_E-1}}_{\text{Pre-election value of the outcome}}$$

This definition of our outcomes enables us to control for large differences in levels across countries and to increase the precision of our estimates. In our baseline analysis, we use $k = 4$ since the modal distance between elections of the same type in a country is four years. To make estimates comparable across outcomes, we standardize the ΔY_E. In the Appendix, we report a wide range of checks verifying the robustness of our results to using different values of k and to replacing the pre-election value of the outcome with the average over the last three years before the election.

Building indices. Electoral results potentially affect a large number of outcomes, which raises the problem of multiple testing. To minimize the risk of overrejecting the null hypothesis, and to gain statistical power, we group the ΔY_E constructed above for our three economic outcomes (GDP growth, inflation,

[14] If this condition is not met, or if we do not have results for this election, we try to define an incumbent party through additional background research.

[15] Our sample includes a few autonomous territories which are not United Nations members (e.g., Greenland and Puerto Rico).

and the unemployment rate) into an index equal to the unweighted average of the three standardized variables, following the procedure of Kling et al. (2007). When a component is missing, we do not include it in the average (i.e., we do not impute a value). Furthermore, we adjust the sign of the components such that higher values of the index reflect better outcomes. Thus, inflation and unemployment enter negatively in the index. We use the same method to aggregate this economic index and the standardized ΔY_E of international trade, conflict, human development, and democracy into a general index. While we also report estimates of the effect of turnovers separately for each component, the impact on this general index of country performance is our main outcome of interest.

3.4 Regression Discontinuity Estimation

Effects of an electoral defeat of the incumbent. We estimate the effects of an electoral defeat of the incumbent with the following RD equation, using one observation per election:

$$\Delta Y_E = \alpha + \beta_1 X_E + \beta_2 X_E T_E + \gamma T_E + \varepsilon_E, \tag{1}$$

where X_E, the running variable, is the victory margin of the best-ranked challenger and $T_E = \mathbb{1}(X_E > 0)$, as described in Section 3.1. ΔY_E measures the difference in outcomes between the post-election average and the pre-election value (see Section 3.3). Equation (1) is estimated with the non-parametric method of Calonico et al. (2014). Using this method, we report the standard RD point estimate γ and the robust standard error as well as the p-value associated with the robust confidence interval for γ.[16] In our exploration of mechanisms, we also estimate alternative versions of equation (1) where we use $|\Delta Y_E|$ as the outcome (i.e., we compute the absolute value of the difference in outcomes between the post-election average and the pre-election value). We also report RD plots separately for each outcome.

3.5 Turnovers in the Executive Branch

When interpreting the effects of electoral turnovers in Section 4, it is important to keep in mind that such turnovers often generate a change of leadership in the executive branch. Therefore, *executive* turnovers may contribute to the effects of *electoral* turnovers.

In presidential elections, electoral and executive turnovers generally coincide because the defeat of the incumbent candidate means that a challenger becomes president for the next term. In parliamentary elections, things are more complex. First, only slightly over half of the parliamentary elections in the sample lead—in a constitutional sense—to the designation of a leader of the executive branch (a head of state or a head of government). Second, in these elections, electoral turnovers tend to lead to a change in the executive, but this is not always the case. For example, an incumbent party that loses a parliamentary election may still be able to retain executive power by forming a different coalition after the election.

To determine whether an election led to an executive turnover, we must define a leader and leading party before and after the election. We define as the leader and leading party before (resp. after) the election the individual and party which led the branch of the executive designated by parliament during a period of at least 365 days in the two years before (resp. following) the election. Panel (b) of Appendix Table C.1 illustrates the implementation of this rule, and Appendix A.8 provides additional details.

[16] In Appendix Table E.2, we show that our results are robust to clustering standard errors at the country $\times$ year level.

We then define as an executive turnover T^x the nomination of a new leader at an executive position. This variable is set to 0 (meaning that an executive turnover did *not* take place) if: (1) the leader before and after the election are the same person; (2) the leading party before and after the election are the same; or (3) the leading party before the election did not compete and instead supported the leading party after the election. If none of these conditions hold, we consider that there has been an executive turnover and set T^x as equal to 1. If we are unable to define a leading party before the election (for example because the leader was an independent) or a leading party after the election, we do not define T^x. Figure 1 (b) shows the evolution of the frequency of turnovers in the executive branch since 1945.

Figure 3 (a) shows the impact of electoral turnovers on executive turnovers in the sample of parliamentary elections leading to the designation of a leader of the executive. We use T^x as the dependent variable in a specification in the form of equation (1). We observe a large upward jump (of 0.38 percentage points) at the threshold, indicating that executive turnovers are much more likely to occur when the challenger party obtained slightly more seats than the incumbent party. This result generalizes a finding from Fujiwara and Sanz (2020) to the entire world. It reflects the norm that the party with a plurality of seats generally has priority over the formation of a new government. Naturally, we observe an even larger jump (of 0.62 percentage points) when we also include presidential elections, in which electoral and executive turnovers generally coincide (Figure 3 (b)). Thus, the effects of electoral turnovers on country performance are likely to be mediated in part by executive turnovers.

Some of our analyses seek to isolate the effects of executive turnovers on country performance. These analyses restrict the sample to presidential and parliamentary elections leading to the designation of a leader of the executive branch. They use a distinct running variable, X^x, equal to the margin of victory of the best ranked challenger over the leader or leading party before the election, defined using vote shares in presidential elections and seat shares in parliamentary elections. To estimate the effect of a turnover in the executive branch, we rely on a fuzzy RDD in which T^x is intrumented with the assignment variable $A^x = \mathbb{1}(X^x > 0)$. For these estimates to capture the effect of a turnover in the executive branch, we must assume the following exclusion restriction: the defeat of the leading party only affects outcomes through the higher probability of an executive turnover. Since this assumption is unlikely to hold in some settings, we also report reduced-form estimates in addition to the fuzzy RDD results. The RD, first stage, and reduced-form equations are shown in Appendix B.3.

Note that for parliamentary elections it is possible to have $X^x \neq X$. When we estimate the effects of electoral turnovers, the incumbent party is defined using the results of the previous election while when we focus on executive turnovers, the leading party is defined based on which party held executive power in the two-year period before the election. Furthermore, it is possible to have $T^x \neq T$, for instance because the head of government appointed following a parliamentary election is not necessarily affiliated with the party which won a plurality of seats. Finally, since not all parliamentary elections lead to the designation of a leader of the executive, it is not always possible to define T^x even when we can define T.

Examples. To make clearer the definitions in this section, we provide some examples:

- **2007 French presidential election**. The incumbent leader was Jacques Chirac from the UMP party. He did not compete in the election, but Nicolas Sarkozy (also from UMP) did. He won the election

with 53.1% of the vote, with the opponent Segolène Royal obtaining 46.9% of the vote. Here, the running variable is $X = X^x = -6.2\%$ and the treatment variable is $T = T^x = 0$ (there was an electoral win of the incumbency and no turnover in the executive branch).

- **1993 Canadian parliamentary elections**. The Progressive Conservative party had won a plurality of seats in the previous election in 1988. The Progressive Conservative party ranked 5th in the 1993 election with 0.7% of the total number of seats in parliament. The Liberal party won the election with 60% of seats and designated a new leader of the executive, Joseph Chrétien, following the election. For this election, we have $X = X^x = 59.3\%$ and $T = T^x = 1$ (there was an electoral defeat of the incumbency and a turnover in the executive branch).
- **2011 Danish parliamentary election**. The Venstre party won a plurality of seats in the previous election in 2007, and the incumbent HOG (Lars Løkke) was from the Venstre. The Venstre party won a plurality of seats in the 2011 elections (with 26.3% of seats), and the Social Democrats party ranked second (with 24.6% of seats), but the HOG after the election was Helle Thorning-Schmidt from the Social Democrats. Here, we have $X = X^x = -1.7\%$. However, we have $T = 0$ and $T^x = 1$ (there was an electoral victory of the incumbency and a turnover in the executive branch).
- **1949 Icelandic parliamentary elections**. The Independence party won a plurality of seats in the previous election in 1946, but the incumbent leader (Stefán Jóhann Stefánsson) was affiliated with the Social Democratic Party. In the 1949 election, the Independence party won again with 37.1% of seats. The Progressive party arrived second with 31.4% of seats and the Social Democratic Party arrived fourth with 14.3% of seats. The leader after the election was Ólafur Thors from the Independence party. Therefore, we have $X = -5.7\%$, $X^x = 22.8\%$, $T = 0$, and $T^x = 1$ (there was an electoral victory of the incumbency and a turnover in the executive branch).

3.6 Effects of Party Characteristics

In Section 5, we also explore whether electing candidates with specific characteristics (e.g., electing a left-wing candidate/party or a populist candidate/party) affects national outcomes. To estimate the effects of a victory of a left-wing party, we consider the top two parties competing in an election and define the running variable X^ℓ as the winning margin of the most left-wing party, and the treatment variable as $T^\ell = \mathbb{1}(X^\ell > 0)$. An election is therefore considered treated if the most left-wing party (among the top two) wins, irrespective of their incumbency status. We then estimate the following sharp RD equation, using the same estimation procedure as with equation (1):

$$\Delta Y_E = \alpha + \beta_1 X_E^\ell + \beta_2 X_E^\ell T_E^\ell + \gamma T_E^\ell + \varepsilon_E. \tag{2}$$

We estimate similar equations for the effects of an electoral victory of a populist party or an illiberal party, and when we explore the effects of electing a younger candidate.

4 Main Results

This section presents our main results. We first report identification checks and placebo tests to verify the validity of our RDD (Section 4.1). We then present our main results showing a positive effect of electoral turnovers on country performance (Section 4.2), along with a variety of robustness and specification checks (Sections 4.3 and 4.4) and heterogeneity analyses (Section 4.5). Finally, we estimate the effect of turnovers in the executive branch (Section 4.6) and check the external validity of our results (Section 4.7).

4.1 Identification Checks

Implementing a RDD in a sample of close national elections raises a concern of sorting at the threshold. Incumbents may be able to manipulate election results, in a way that would systematically benefit them and hurt challengers. If this occurred, we would observe a discontinuous drop in the density of our running variable (the victory margin of the best-ranked challenger) across the threshold (McCrary, 2008).

To address these concerns and to build confidence in the internal validity of our results, we first implement the density test from Cattaneo et al. (2018) testing for manipulation of the running variable. Figure 4 reports these density tests for the full sample of elections (panel a) and separately for presidential elections (panel b) and parliamentary elections (panel c). While there is more mass of the running variable on the left of the threshold (indicating that incumbents, overall, win the majority of elections), we find no evidence of manipulation of the running variable in the full sample (p-val. = 0.748) and in the subsamples of presidential and parliamentary elections (p-val. = 0.177 and 0.720, respectively).[17] Furthermore, in Appendix Figure D.2, we find no evidence of manipulation among elections in democracies, elections in autocracies, and elections assessed as free and fair by V-Dem (panels a, b, and c). However, the density test fails for elections assessed as not free and fair (panel d). We keep these elections in the main sample because the negative jump in the density of the running variable could be due to endogenous retrospective coding instead of actual manipulation: experts may be more likely to rate an election as not free and fair because it was won by the incumbent. Reassuringly, Appendix Table E.3 shows that our main results are robust to dropping these elections from the analysis. In addition, we obtain similar results when focusing on elections following a free and fair election (Appendix Table E.4). The logic behind this sample restriction is that the assessed fairness of the previous election predicts the fairness of the present election (with a 0.72 correlation) but it should not be endogenous to the present treatment.

We then present a variety of placebo tests showing that the treatment has no impact on our outcomes of interest measured in pre-election years. Appendix Tables D.2 to D.4 report these tests with outcomes measured in levels for years t_E-1, t_E-2, and t_E-3, while Appendix Tables D.5 and D.6 report these tests in year-on-year differences. In Appendix Table D.7, we regress decade and region dummies on equation

[17] In parliamentary elections, bunching on either side of the threshold may be more likely to occur in small parliaments. Indeed, the lower the number of seats, the easier it may be for the incumbent or the challenger party to win a small plurality of seats by manipulating the results (or exerting additional effort) in a few tangential constituencies. However, the median number of seats in parliaments in our sample is relatively high (127 seats), and we continue to find no evidence of manipulation of the running variable when focusing on the subsample of parliamentary elections with fewer than 60 seats, which corresponds to the 25th percentile of the distribution (see Appendix Figure D.2, panel f). Furthermore, Appendix Table E.6 shows that the impact of electoral turnovers on the general index of country performance is robust to excluding parliamentary elections with fewer than 60 seats.

(1) and find no evidence that turnovers are associated with these variables. We also find no jump at the threshold for the time elapsed since the last treatment, the running variable in the previous election, and the value of the treatment in the previous election (Appendix Figures D.3, D.4, and D.5). We further fail to reject the null hypothesis of continuity of the distribution of a large set of pre-election covariates at the cutoff, using Canay and Kamat (2017)'s permutation test, either in our full sample or in the subsamples of presidential, parliamentary, free and fair, and non free and fair elections (see Appendix Table D.8).

Finally, we find no effect on the number of years until the next election occurs (Appendix Figure F.2) or the probability of a turnover in the next election (Appendix Figure F.3). We conclude from these checks that the results we show can be attributed to the causal effects of a turnover in the present election.

4.2 Main Results: Effects of an Electoral Defeat of the Incumbent

We now turn to our exploration of the consequences of electoral turnovers. Table 2 presents RD estimates of the effect of an electoral defeat of the incumbent—we report our estimate of γ from equation (1). Our outcomes of interest are the standardized index of economic performance (combining GDP growth, inflation, and unemployment), international trade, human development, peace, democracy, and the general index of country performance combining all these measures. Figure 5 complements Table 2 with RD plots for these various outcomes. As discussed in Section 3.4, we use the non-parametric method of Calonico et al. (2014) for estimation.

Electoral turnovers improve country performance along all dimensions, although estimates are statistically significant for only some of these dimensions. As shown in Table 2, an electoral defeat of the incumbent results in a 0.28 standard deviation (SD) improvement in economic performance, which is mainly driven by a decrease in both inflation and unemployment. The effect of turnovers on GDP growth is positive but smaller in magnitude and non-significant. We also estimate positive and fairly large effects of turnovers on trade intensity (0.25 SD), human development (0.20 SD), and peace (0.08 SD), but only the first of these estimates is statistically significant.[18] Finally, our general index of country performance increases by 0.20 SD when the incumbent candidate or party is defeated in a national election, which is significant at the 1% level. In Appendix Table E.5, we also report estimates measured in natural units rather than standard deviations. These estimates can be compared to the mean and standard deviations of the outcomes of interest, shown in Appendix Table C.2.

The positive effect of turnovers on democracy, which is also large (0.19 SD) and significant, warrants particular attention. Indeed, one could be concerned that experts responsible for the retrospective evaluation of democratic quality across regimes may be influenced ex post by the occurrence of an electoral turnover. Because we cannot rule this out, this estimate should be interpreted with caution. Nonetheless, our estimates of the effect of turnovers on the general index of performance are robust to excluding democracy from the construction of this index: the point estimate is nearly identical in this case (0.21 SD), as shown in Appendix Table E.6.

We further assess how the effects of electoral turnovers evolve over time. We estimate the following

[18] The UNDP's Human Development Index is the geometric mean of three components measuring income, life expectancy, and education. Because income is similar to GDP growth, which we include separately in our economic performance index, we show effects on each of these three components separately in Appendix Table E.17. All point estimates are positive and the effect on the geometric mean of life expectancy and education is larger, if anything, than the baseline effect.

RD equation for each outcome and each year after the election, i.e. each value of $\tau \in \{-2, 0, 1, 2, 3, 4, 5\}$:

$$Y_{c,t_E+\tau} - Y_{c,t_E-1} = \alpha_\tau + \beta_{1,\tau} X_E + \beta_{2,\tau} X_E T_E + \gamma_\tau T_E + \varepsilon_{E,\tau} \quad (3)$$

Figure 6 reports the estimated γ_τ's. The estimates of γ_{-2}, corresponding to the effect of turnovers on outcomes measured two years before the election, can be interpreted as placebo tests. These estimates are small in magnitude and non-significant, as expected. Furthermore, we find that the effects of turnovers are initially small, but increase over time. This is especially the case for two outcomes: economic performance and trade (in Appendix Figure F.4, we show similar patterns for the different components of the economic performance index). The effects on the overall index of performance also increase gradually until the third year after the election. Appendix Figure F.5 corroborates these findings with separate RD plots for the general index of performance and for each year after the election. Overall, these dynamic patterns indicate that it takes a few years for the change in leadership to impact country-level outcomes.

4.3 Robustness Checks

In the Appendix, we show that our results are robust to numerous specification changes and alternative ways of constructing our outcome variables. Here we provide a brief overview of these checks.

Construction of the general index. In Appendix Table E.6, we show that our results for the general index are robust to alternative constructions of this index, namely: excluding each of the components in turn; only keeping elections for which we have data on all components; using a weighted index à la Pocock (1997), which gives less weight to components which are more correlated with each other; defining the general index as the simple average of all outcomes used in the components instead of the simple average of the components; excluding observations in large geographical regions; excluding observations in each decade of the sample; and only looking at elections before or after 1990.

Restricting to major elections. Many countries, including the U.S., hold both presidential and parliamentary elections. In these cases, our main sample includes both types of elections. Appendix Table E.6 shows that our results are robust to restricting the sample to major elections in each country, namely presidential elections in presidential systems, and parliamentary elections in parliamentary systems.

Changing the pre-election baseline. Our main results in Table 2 and Figure 5 compare the post-election average of the outcome to the value of the outcome measured in the year before the election. We show in Appendix Table E.7 that these results are robust to the choice of the pre-election baseline by using the average of the three pre-election years instead of the pre-election year only. Namely, we define $\Delta Y_E = \left(\frac{1}{4}\sum_{\tau=1}^{4} Y_{c,t_E+\tau}\right) - \left(\frac{1}{3}\sum_{\tau=1}^{3} Y_{c,t_E-\tau}\right)$.

Changing the number of years in the post-election period. Instead of using the average of the four post-election years to measure post-election outcomes, we also estimate equation (1) including three, five, seven, and ten years in the post-election period. We further show that the results are robust to adding the year of the election in the post-election period. Appendix Tables E.8 to E.14 report these

checks separately for each outcome of interest and for the general index of country performance, constructed with and without the democracy index.

Winsorizing. To avoid results being driven by extreme events (e.g., hyperinflation episodes), changes in measurement, or data errors, we winsorize our most volatile outcomes (GDP growth, inflation, unemployment, and trade) at the 3rd and 97th percentiles. Appendix Tables E.8 to E.14 show that our results remain unchanged when we winsorize less (at the 1st and 99th percentiles) or more (at the 5th and 95th percentiles). These tables also show that our results are robust to trimming instead of winsorizing.

Changing the outcome variables or the source used. To choose our main outcomes, we relied on data availability and reliability. Appendix Tables E.15 to E.19 show additional results for a wider set of outcomes. For example, we show that our results on economic performance are robust to using growth in GDP per capita instead of GDP growth, and to using data from alternative sources.

4.4 RD Specification Choices and Randomization Inference

We check the robustness of our results to three deviations from the baseline RD specification choices in Calonico et al. (2014). First, our main regressions do not control for any covariate, but the RD estimation procedure of Calonico et al. (2014) allows the inclusion of controls. In Appendix Tables E.8 to E.14, we show that including geographical region and decade fixed effects does not affect the estimates we obtain, and that it does not help us gain statistical power. Appendix Table E.20 shows that controlling for pre-election outcomes also not does change our main results, though it slightly increases the precision of our estimates. Second, in our baseline estimation, we use the MSE-optimal bandwidth from Calonico et al. (2014). In our analysis of the general index of country performance, this bandwidth includes 904 national elections, corresponding to a bandwidth size of 15.6 percentage points on each side of the threshold.[19] Appendix Tables E.8 to E.14 show that we obtain very similar estimates with a bandwidth twice larger or twice smaller than this optimal bandwidth. Third, we show that our results are robust to using a second order local polynomial instead of the default local linear regression of Calonico et al. (2014).

We further check the robustness of our results to using an independent estimation procedure. The RD estimates of Calonico et al. (2014) are valid under assumptions of continuity of potential outcomes around the cutoff, as many RD estimators. An alternative view of RDDs is that the treatment assignment can be considered quasi-random close to the cutoff, not just at the cutoff itself. If we can find a window around the cutoff in which covariates have similar distributions across treatment and control observations, making treatment plausibly random (a local randomization hypothesis), we can then use randomization inference techniques which are valid in finite samples rather than the large-sample approximation of Calonico et al. (2014). We apply the procedure of Cattaneo et al. (2015) to find the largest possible window around the cutoff for which the local randomization assumption is plausible, based on the following covariates: the level of our main outcome variables the year before the election as well as the value of the treatment variable and the running variable in the previous election. We then estimate effects with a difference in means estimator and use a randomization inference procedure to derive the

[19] The size of the MSE-optimal bandwidth from Calonico et al. (2014) depends on the dependent variable considered. Across our main outcomes, the number of elections included in the bandwidth varies between 562 and 1,193 (see Table 2).

p-value corresponding to the test of the null hypothesis, following Cattaneo et al. (2016). Figure 7 reports the results of these nonparametric tests. These results are consistent with our baseline estimates. In particular, using an optimally chosen window of 2.4 percentage points on either side of the threshold, we find a 0.21 SD effect of electoral turnovers on the general index of country performance.

4.5 Heterogeneity Analyses

The positive effects of electoral turnovers may be driven by specific types of regimes. Furthermore, factors that constrain the power of leaders may diminish their ability to steer country performance. To explore these possibilities, we estimate the impact of electoral turnovers in various subsamples.

In Table 3, we first report the effects of electoral turnovers across presidential and parliamentary elections separately. We also split our sample between democracies and autocracies and between OECD and non-OECD countries. Overall, turnovers have a positive effect across most subsamples. The effect of turnovers on the general index of performance is large and positive in all subsamples and it is statistically significant in all but one of them. This effect is larger in presidential elections, in non-OECD countries, and in autocracies but we cannot reject the null that effects across subsamples are identical. For the HDI and peace, the effect appears larger for presidential elections and for OECD countries. Finally, the impact of turnovers on democracy is larger in non-OECD countries and in autocracies, where there is more scope for democratic quality to vary across election cycles.

We also ask whether turnovers matter more when there are fewer internal and external constraints on the executive. We consider three types of constraints: (i) institutional checks and balances, measured using the average of two V-Dem indices (the indices of judicial constraints on the executive and legislative constraints on the executive); (ii) the amount of power vested in the member of the executive appointed following the election, measured using several V-Dem indices (see Appendix A.4.2);[20] and (iii) exposure to globalization, which we quantify using trade intensity. For each dimension, we consider the value of the variable in the year before each election, compute the median among close elections (i.e., elections for which the running variable is under 15 percentage points in absolute value), split the sample between elections above and below the median, and estimate equation (1) separately in each subsample.

Table 4 reports these results. While, again, we cannot reject that effects across subsamples are identical, the takeaways are intuitive: the positive effects of turnovers tend to be larger in settings where there are fewer constraints on the executive. In particular, turnovers improve economic performance and the general index of performance relatively more when there are fewer checks and balances (column 3), when the leader nominated after the election holds more power (column 4), and when the country's economy is less globalized (column 7). These effects call for a more systematic examination of the effects of turnovers in the executive branch, which we turn to in the next section.

Finally, we assess how the effects of turnovers vary with the tenure of the incumbent. The repetition of turnovers in a short timeframe may generate instability (e.g., see Gratton et al., 2015). Furthermore, the risk of power erosion may be higher when incumbents have been in office for a longer period of time, leading to larger effects of turnovers in that case. On the other hand, long-tenured incumbents may have accumulated more experience and they may be better able to circumvent the constraints on

[20] This measure can only be defined when the election leads to the designation of a member of the executive.

the executive mentioned above, making it costly to replace them. In line with this second prediction, and perhaps surprisingly, we find that the effects of turnovers tend to be larger when less time has elapsed since the last turnover (Appendix Table F.1, column 3 vs. column 2) and when there was a turnover in the previous election (column 5 vs. column 4). However, these differences are not statistically significant.

4.6 Effects of Executive Turnovers

We now explore the impacts of turnovers in the executive branch. As discussed in Section 3.5, we instrument the occurrence of an executive turnover with a binary treatment indicating an electoral defeat of the party which led the executive branch before the election, and we estimate a fuzzy RDD. In order to interpret the corresponding estimates causally, we must assume that the defeat of the leading party only affects outcomes through the higher probability of an executive turnover.

Table 5 shows the first stage, second stage, and reduced form results, and Appendix Figure F.6 shows reduced form RD plots. The effects of executive turnovers are similar to those of electoral turnovers in the main sample. They are slightly less precisely estimated since the exclusion of parliamentary elections that do not lead to the designation of a member of the executive decreases the sample size.

In parliamentary elections, a challenger party may win a plurality of seats without being able to gain executive power. Therefore, one would expect executive turnovers to have larger effects than electoral turnovers. Our results are generally consistent with this expectation: executive turnovers increase the index of economic performance and the general index of performance by 0.33 and 0.24 SD respectively, as compared to effect sizes of 0.28 and 0.20 SD for electoral turnovers. The effects of executive turnovers on trade and human development are also larger. By contrast, the effect on democracy is slightly smaller and, if anything, the effect on peace is negative (but non-significant), contrasting with the positive (and also non-significant) point estimate we found for electoral turnovers.

Whether the effects of executive turnovers should be larger when the incumbent leader is nominally on the ballot or when the candidate of the incumbency is someone else is theoretically ambiguous. Re-election incentives and reputation concerns may be stronger for the candidate of the incumbency in the latter case, mitigating the adverse effects of keeping the incumbent party in power. In the former case, these negative effects may be compensated by the political experience accumulated by the incumbent leader. Overall, we find similar effects in both cases (see Appendix Table F.2).

4.7 External Validity

Although the RDD allows us to estimate a causal effect of electoral turnovers, this effect is a local one: specifically, we measure the effect of turnovers for elections *exactly* at the cutoff. If these elections are substantially different from elections which are less close, our conclusions may have limited external validity. To alleviate these concerns, we implement two exercises. First, building on Arezki et al. (2020), we look at a subsample of "unlucky incumbents" who stand for reelection in the aftermath of a global oil shock. The intuition behind this exercise is akin to finding exogenous variation for the *occurrence* of a close election, in addition to the variation we exploit in the outcome of the election. Second, we follow Angrist and Rokkanen (2015) to estimate RD treatment effects in a larger window around the cutoff.

Global oil shocks. Close national elections may attract specific types of candidates. To the extent that incumbents who performed poorly are more likely to find themselves in a close reelection battle, incumbents may be negatively selected in the sample of close national elections. In turn, weak incumbents might incentivize high-quality challenger candidates to enter the race (Gordon et al., 2007; Ban et al., 2016). By focusing on close national elections, we may therefore be comparing unobservably weak incumbents with unobservably strong challengers. As long as the quality of each candidate does not jump discontinuously at the cutoff, this does not affect the causal interpretation of our RD estimates. However, it could mean that electoral turnovers improve country performance only when elections are close. To probe this interpretation, it is informative to look at national elections that happened to be close not as a result of poor incumbent performance, but due to exogenous factors outside the incumbent's control.

Arezki et al. (2020) show that incumbents are penalized by their electorate when elections take place in the aftermath of an oil shock. This could occur because voters over-attribute observable outcomes to leaders and fail to take into account the adverse circumstances that these incumbents might have faced (see also Glaeser and Ponzetto, 2017). The timing of global oil shocks therefore provides exogenous variation that we can use to predict the occurrence of close national elections. While some incumbents struggle to get reelected because of their own poor performance, other unlucky incumbents face stiffer competition due to adverse oil shocks. In Appendix Table F.3 we estimate the effects of turnovers in elections conducted after a global oil shock. To measure oil shocks, we use the World Bank Commodity Price Data (the "Pink Sheet"). For each year, we compute the annual growth in the worldwide price of crude oil g_t. We then associate an election taking place at time t_E with the oil shock $s_{t_E} = (g_{t_E-1} + g_{t_E-2})/2$, and divide the sample between above and below-median s_{t_E}.

As expected, the running variable among elections in the high oil shock sample is on average 3.3 percentage points higher than among those in the low oil shock sample: the occurrence of an oil shock tends to improve the performance of challengers. Yet, the positive effects of turnovers hold in both subsamples. Electoral turnovers improve the general index of country performance by 0.19 SD and 0.25 SD in the high and the low oil shock subsamples, respectively. Both effects are similar to the baseline estimate (0.20 SD) and statistically significant. Turnovers also improve economic performance in both subsamples, by 0.20 and 0.33 SD respectively. In sum, the incumbents who are closely reelected after a global oil shock also tend to perform worse than counterfactual challengers. Thus, the positive effects of turnovers do not seem driven by differential selection of incumbents and challengers in close national elections. These results suggest that the effects we find at the threshold hold some validity for non-close elections. We now use a complementary exercise to explore this claim directly.

Estimating effects away from the cutoff. Appendix Table F.4 and Appendix Figures F.8 and F.9 report results from the procedure of Angrist and Rokkanen (2015). This procedure relies on a testable conditional independence assumption (CIA): in a window around the cutoff, potential outcomes are assumed to be mean-independent of the running variable conditional on a set of controls. We focus on the [-15pp,+15pp] window, which encompasses about 40% of elections in our sample, and more than half of elections in democracies. In Appendix Figure F.8, we test the CIA hypothesis. We fail to reject its validity for the general index and all its components except the economic performance index. We then construct two CIA-based estimators: the first is a linear reweighting estimator discussed by Kline (2011), and the

second is a version of the Hirano et al. (2003) propensity score estimator. Appendix Table F.4 reports these estimates. We find treatment effects which are all positive and consistent with our main results, although smaller in magnitude. On average, elections won by the challenger by 15 percentage points at most increase the general index by 0.11 SD. These results indicate that the effects of electoral turnovers are not limited to elections at the threshold. The effects may be particularly important for close elections, but we fail to reject equality of the Calonico et al. (2014) and CIA-based estimates for all outcomes.

5 Mechanisms

We now explore potential mechanisms explaining the positive effect of electoral and executive turnovers. In this discussion, we mainly follow the predictions from the literatures on political representation and political agency. We first ask whether the higher performance of elected challengers comes from differences in the characteristics of candidates and their parties (Section 5.1) or from differences in the policies they implement in one broad area of policy: government intervention in the economy (Section 5.2). Then, we estimate the effects of turnovers on perceived corruption (Section 5.3). We conclude by discussing alternative mechanisms which we deem unlikely to explain our main results (Section 5.4).

5.1 Candidate and Party Characteristics

Recent studies show the importance of national leaders for country-level outcomes throughout history (Dube and Harish, 2020; Funke et al., 2020; Ottinger and Voigtländer, 2021; Peveri, 2021). The insights from this literature are broadly in line with citizen-candidate models, which predict that electing leaders with certain characteristics could affect the quality and the type of policies implemented at the country level (Osborne and Slivinski, 1996; Besley and Coate, 1997) and, in turn, impact country performance.

This mechanism might explain our results if two conditions are satisfied. First, challenger candidates or parties should have systematically different characteristics than incumbents. Second, these characteristics should induce better performance. For instance, electoral turnovers might correlate with the victory of more left-wing leaders if challengers are more left-wing than incumbents on average. We would then estimate a positive effect of turnovers if left-wing policies improve country performance. Accordingly, exploring this representation mechanism requires implementing two series of tests.

First, we investigate whether electoral turnovers coincide with the victory of candidates with specific characteristics. In Figure 8, we test this hypothesis for one demographic characteristic of leaders (age) and three ideological characteristics of parties measured in V-Dem, namely the parties' position in terms of the left-right divide, populism, and illiberalism.[21] Here, we estimate equation (1) using as our dependent variable the age, the left-right ideology, the populism score, and the illiberalism score of the winning candidate. We report the RD point estimate at the bottom of each graph. Elected challengers tend to be younger (by 1.9 years), more to the right (by 0.05 SD), more populist (by 0.23 SD), and less illiberal (by 0.20 SD) than reelected incumbents, but all effects except for the latter are non-significant.[22]

[21] To estimate the effect on leaders' age, we restrict the sample to presidential elections and parliamentary elections that lead to the designation of a member of the executive.

[22] In addition to age, we note that the positive effects of turnovers are unlikely to be driven by changes in the gender of national leaders. Indeed, there are only 133 electoral races where exactly one female candidate is among the top two candidates in our main sample, and our results are robust to dropping these elections.

Second, we ask whether electing a leader with different characteristics affects outcomes. Note that even if this were the case, this would not suffice to explain our main results since turnovers do not systematically lead to the election of challengers of a certain type. However, the small differences in Figure 8 could still matter. Furthermore, measuring the effect of electing a leader with certain characteristics is of independent interest. To do so, we restrict the sample to elections where we observe either the age of the top-two candidates or the ideology of the top-two parties. We then estimate equation (2) to measure the effect of electing a younger candidate, or a more left-wing, more populist, or more illiberal party.[23]

Table 6 shows little evidence overall that electing a candidate with these characteristics affects performance. Electing the youngest candidate leads to a -0.03 SD decline in performance, and left-wing victories also have a -0.03 SD effect on performance (both effects are non-significant). Victories of the left seem to increase unemployment (by 0.20 SD), but this effect is imprecise. Electoral victories of populist parties have a negative effect on performance (-0.07 SD). However, this is mainly driven by variation in the democracy index—the impacts on economic and trade outcomes are small in magnitude and non-significant. Finally, electoral wins for illiberal parties have a large negative effect on GDP growth (0.37 SD). However, we do not detect a significant effect on the other outcomes, including the general index of performance. We also obtain non-significant results when we restrict the sample to elections where the age difference between the top two candidates is large (over 10 years) or to those where the difference between the scores of the top-two parties is larger than one standard deviation of the score (Appendix Table F.5), and when we use binary classifications of parties' ideologies as left vs. right, populist vs. non-populist, and liberal vs. illiberal instead of continuous scores. Appendix A.3.2 provides additional details about this classification, and Appendix Table F.6 shows the corresponding regression estimates.[24]

We interpret these results with much caution. The sample size in these regressions is relatively small, and the analysis of ideological differences entirely relies on V-Dem's classification of party ideologies across all national elections held worldwide since 1945. The left-right, populism, and illiberalism scores are missing for many parties, and rigorously comparing these ideologies when they are non-missing may be too demanding a task. Nonetheless, it is striking that these alternative analyses deliver mostly null and few consistent results, echoing the non-significant results obtained by Ferreira and Gyourko (2009) and Dynes and Holbein (2020) for U.S. mayoral and state elections, but contrasting with the substantial effects found by Pettersson-Lidbom (2008), Folke (2014) and Fiva et al. (2018) in local European elections.

5.2 Effects on Policy: Government Intervention in the Economy

Even if turnovers do not bring to power leaders with systematically different ideologies, challengers may still adopt different *policies* than incumbents would have in the counterfactual electoral outcome. This could occur if challengers differ from incumbents along unobservable characteristics (e.g., competence) or if pursuing better policies requires more effort, and incumbents and challengers exert different levels of effort. The policies adopted by challengers could in turn improve country performance.

To explore this possibility, we first ask whether electoral turnovers lead to more or less government

[23] In Appendix Figure D.6, we verify the absence of manipulation of the corresponding running variables, constructed as the margin of victory of the youngest candidate, the most left-wing party, the most populist party, and the most illiberal party.

[24] The lack of effects of candidate characteristics could result from the fact that different types of candidates implement different policies, but these policies fail to affect performance. However, Appendix Table F.7 shows generally non-significant effects when we estimate the impact of leaders' age and ideology on the policy outcomes explored in Section 5.2.

intervention in the economy. We consider four measures of government intervention: government expenditure, tax revenue, national debt (all measured as a share of GDP), and a standardized index combining these three outcomes. We focus on these policy dimensions for several reasons. First, the data we collected allow us to consistently measure these outcomes. Second, government intervention is typically one of the key policy levers that elected challengers employ to improve economic performance upon their inauguration. Historically, issues related to taxation, public spending, and government deficits have been central in many national electoral campaigns; and newly elected country leaders are often keen to adopt landmark economic policy legislation early in their tenure.[25]

Figure 9, panel a, shows that the effects of turnovers on all four measures of government intervention are small and non-significant. Not only is there no discontinuous jump (in either direction) of government intervention at the cutoff, but the levels of intervention (relative to the year before each election) are also similar in magnitude on both sides of the discontinuity, away from the cutoff. Appendix Table F.8 reports effects on other types of economic policies, each measured in a smaller subset of elections: a measure of central bank independence from Garriga (2016); government expenditure composition (namely the share of government expenditure and the share of GDP dedicated to health, education and military expenditure) from Ortiz-Ospina (2016); taxation composition (the share of taxes coming from consumption, income, and trade) from the World Bank; and measures of financial liberalization from Abiad et al. (2010). While some estimates are statistically significant, as one would expect, we do not find robust evidence that electoral turnovers systematically move policies in one direction or another. For example, there is some suggestive evidence that turnovers increase financial liberalization (by 0.26 SD) and central bank independence (by 0.30 SD). But the sample size for these regressions is generally small, and the standard errors around each point estimate are large.

Importantly, this evidence alone does not completely rule out the possibility that challengers enact policies which are different, and potentially better, than the policies chosen by a counterfactual incumbent who won reelection. Indeed, suppose that challengers are more likely to implement policies tailored to the country's needs and that these policies depend on the prevailing context, whereas incumbents prefer the status quo. For instance, challengers might increase government intervention (relative to incumbents) during economic downturns and reduce it when the economy is overheating. Such effects would be consistent with the lack of impact on the average direction of policies observed in Figure 9.

Such mechanisms would be captured by the effect of turnovers on *non-directional* policy outcomes. Accordingly, we compute the absolute value of the difference between the post-election and the pre-election average of each measure of government intervention, and we estimate again equation (1) using the transformed outcomes as dependent variables. Interestingly, we find positive effects of turnovers on changes in government expenditure, national debt, and tax revenue. The latter effect (but not the two others) is significant at the 10% level (Figure 9, panel b).[26] The effect on the overall index of change in government intervention, of 0.20 SD, is at the margin of significance (p-val. = 0.11). This suggests that non-directional differences in the policies implemented by incumbents and challengers might contribute to the positive effect of turnovers. Next, we probe the mechanisms underlying these policy changes.

[25] In the U.S., Franklin D. Roosevelt passed most of the New Deal legislation within his first 100 days in office, while major economic stimulus bills were adopted in the early days of several recent presidencies.

[26] In Appendix Table F.9, we show additional results on the absolute value of the difference of the same set of policy variables examined in Appendix Table F.8. Most estimates (23 out of 27) in this table are positive.

5.3 Effects on Governance and Corruption

The evidence above suggests that differences in candidate characteristics cannot entirely explain the positive effect of turnovers. One implicit assumption behind these tests was that elections serve as a mechanism for citizens to select candidates (or policies) on a spectrum—a *representation* mechanism. However, turnovers may also improve performance because newly elected challengers are more *accountable* to their voters than reelected incumbents. If this were the case, we should observe that standard proxies for politician performance, such as corruption (e.g., Besley, 2007; Ferraz and Finan, 2011), also vary as a result of turnovers. We test whether turnovers affect several expert-coded measures of perceived corruption and accountability at the country level. Namely, we use an index of government accountability[27] and indices of executive corruption and public sector corruption from V-Dem, the World Bank's index on the control of corruption, and a standardized index aggregating the four previous measures.

Figure 10 shows the corresponding RD plots and point estimates. Strikingly, across many of the outcomes we consider, turnovers improve governance and reduce perceived corruption. These effects are large in magnitude (ranging from 0.16 SD for public sector corruption to 0.44 SD for the control of corruption) and they are generally significant at the 1% or 5% level. Table 7, which examines heterogeneous effects across different subsamples, shows that effects are larger for presidential elections, elections conducted outside OECD countries, and elections held in regimes where the leader nominated after the election holds more power. This suggests that turnovers are especially conducive to good governance in countries with fewer checks and balances on the executive, where reelected incumbents may otherwise use their power to extract rents. Appendix Table F.10 shows results for a broader set of variables collected from V-Dem and the World Bank.[28] Among 17 outcomes signed such that higher values indicate greater accountability, only two are negatively affected by turnovers (and both estimates are small and non-significant). The other estimates are all larger than 0.10 SD, and seven are statistically significant. Overall, these results show that government accountability increases as a result of electoral turnovers.

As with measures of democracy explored in Section 4, one might fear that the coding of these indicators is endogenous to the occurrence of a turnover. Experts might infer that corruption decreased from the fact that the incumbent was defeated. In that case, corruption indices would drop sharply during the year of the turnover, or shortly thereafter. To test whether this is the case, we estimate dynamic effects of electoral turnovers on corruption, using specifications in the form of equation (3). Instead, we find that the effects of a turnover on corruption are initially small and increase over time (Appendix Figure F.7).

Overall, the effects of turnovers on governance and corruption display a similar pattern to what we observed when looking at country performance: namely, they increase dynamically over time, and they appear stronger in countries with fewer constraints on the executive. This provides suggestive evidence that improvements in governance and corruption might contribute to the overall improvement in country performance we observe. A large literature has documented the relationship between corruption and

[27] The accountability index of V-Dem aggregates measures of vertical, diagonal, and horizontal accountability. Vertical accountability captures the extent to which citizens can hold the government accountable. Diagonal accountability covers the mechanisms that citizens, civil society, and the media can use to hold the government accountable. Finally, horizontal accountability captures the power of state institutions to oversee the government. The effects of electoral turnovers are strongest for horizontal accountability, followed by diagonal accountability and vertical accountability (Appendix Table F.10).

[28] Before 2002, the World Bank governance indicators, including the control of corruption index and indicators shown in Appendix Tables E.19 and F.10, were only measured every other year. Appendix Table F.11 checks the robustness of our effects on these indicators when we restrict the sample to the period post 2002.

economic performance (Mauro, 1995) through theft of government resources (Olken, 2006; Ferraz et al., 2012), effects on firms (Svensson, 2003; Sequeira and Djankov, 2014), misallocation of capital (Khwaja and Mian, 2005), and demand for regulation (Di Tella and MacCulloch, 2007). In our context, a plausible channel might involve corruption inside the government and the bureaucracy trickling down to other sectors of the economy, generating adverse effects on overall country performance.

Term limits. Why do electoral turnovers improve accountability and reduce perceived corruption? The related literature highlights a simple mechanism: in many political systems, individual incumbents in their late (e.g., second or third) terms often face a term limit and cannot run for reelection. In the absence of reelection incentives, incumbents might exert less effort and perform more poorly (Ferraz and Finan, 2011; Fouirnaies and Hall, 2021). This could offset any potential negative effects of turnovers through loss of experience, personnel instability, and policy uncertainty.

However, Table 3 already provided some evidence at odds with this mechanism. Electoral turnovers also improve country performance under parliamentary systems, where individual leaders (as well as parties) generally do not face a term limit.[29] In parliamentary elections, turnovers improve economic performance by 0.19 SD, trade intensity by 0.22 SD, and the general index of performance by 0.16 SD. These effects cannot be easily explained by differences in reelection incentives coming from term limits.

Nonetheless, term limits could play a role in the context of presidential elections, where the effect of turnovers on performance appears slightly larger. To explore this, we rely on data from the Comparative Constitutions Project (CCP) (Elkins et al., 2021) to identify regimes with presidential term limits. In these regimes, we determine whether the incumbent and challenger would face a term limit, should they win. The CCP covers 59% of our presidential elections. Focusing on this subsample, we find that term limits are not specified in the country's constitution in 12% of elections, and that they are explicitly nonexistent in 5% of elections. Furthermore, in 45% of elections, term limits exist but are not differentially binding for the incumbent and the challenger.[30] In total, term limits exist and are differentially binding for the incumbent and the challenger in less than half of the presidential elections covered by the CCP.

Table 4, column 8 reports the effects on our main outcomes in a subsample including parliamentary elections and presidential elections in which there is no differentially binding term limit. Electoral turnovers improve the general index of country performance by 0.15 SD, which is similar to the point estimate in the full sample (column 1). The effects on the different components are of similar magnitude as in the full sample. We conclude that presidential term limits are unlikely to be driving our results.[31]

Incumbent career concerns. Electoral turnovers could still improve accountability through other related mechanisms, even in the absence of *de jure* term limits. Intuitively, many of these mechanisms relate to Holmström (1999)'s idea of career concerns in labor markets, transposed to electoral settings. In regimes that hold regular elections, incumbent leaders and parties may want to build reputation by

[29] In our data, the only specified term limits for the head of government under parliamentary systems are in Andorra, Benin (in 1964 only), Serbia (in 1990 and 1991 only), and Thailand (between 2008 and 2013).

[30] This occurs because: presidents can only serve one term (12%), the candidate representing the incumbency is not the incumbent themself (30%), the challenger had already been in power in the past (1%), or the candidate representing the incumbency had already been in power in the past but the term limit is of three terms or more (2%).

[31] The small number of elections with a differentially binding term limit unfortunately means that we do not have sufficient sample size to estimate the effect of electoral turnovers in these elections specifically.

exerting more effort early in their tenure, and use their later terms in office to extract rents. In the late terms of a given leader or party, the incentives to not misbehave are diminished because voters have already formed precise beliefs about the incumbent's type, and additional new information is unlikely to change these beliefs substantially. In a model featuring both moral hazard and learning by voters, Ashworth (2005) shows that an incumbent's action (i.e., the resources they allocate to constituency service) is decreasing over their tenure and over time. Our posited mechanism follows the same intuition.

Several channels appear related to this idea. Since these channels are observationally equivalent, we cannot decisively adjudicate between them, but we hypothesize that a combination of these mechanisms explains the positive effects of turnovers. One channel involves learning in corruption by incumbents, who might learn over time how to extract rents. If this occurs, we should observe higher corruption after the reelection of an incumbent. Another channel might involve delayed corruption or "golden goose" effects (as in Niehaus and Sukhtankar, 2013, who look at non-elected bureaucrats), leading national leaders to refrain from mishehavior early in their tenure so that they can win reelection and extract more rents later. These effects could be magnified if close elections signal to incumbents that their days as national leaders are numbered, providing additional incentives to extract more rents, a mechanism akin to a "de facto" term limit. Yet another channel might involve political parties struggling to hold long-serving incumbents accountable, e.g., because such incumbents hold sway over the choice of their political successor. Finally, incumbents might simply be experiencing government fatigue—an erosion of their motivation and power simply due to the effect of time. Giving an impulse to country reforms and performance is more difficult for individuals and parties who have held power for a long time.

5.4 Alternative Mechanisms

Several other complementary mechanisms could mediate the effects of turnovers on performance. First, turnovers might improve country-level outcomes by fostering a democratization episode, or a change in the nature of the political regime in a direction that tends to promote performance. Several recent revolutions occurred in the immediate aftermath of a close national election—e.g., the 2003 Rose Revolution in Georgia or the 2004 Orange Revolution in Ukraine. However, these regime change episodes are unlikely to explain our results. Indeed, turnovers do not lead to a discontinuous jump in the likelihood of a democratization episode (or a democratic reversal) in the aftermath of the election—we show this result in Appendix Figure F.10.[32] In addition, while some elections in our sample coincide with a regime change, our results are robust to excluding these elections from the analysis. Overall, 20% of national elections are concomitant with a regime change taking place in the years $t \in [-1, 3]$ around each election. Appendix Table E.6 shows that the impact of electoral turnovers on the general index of country performance remains nearly identical (0.21 SD) when these elections are removed from the sample.

Second, electoral transitions could directly impact outcomes through their effect on personnel changes and bureaucratic quality. However, two separate studies by Akhtari et al. (2022) and Toral (2021) find opposite effects in the context of mayoral elections in Brazil, where personnel turnover is detrimental to municipal performance. Unfortunately, there are no available data on bureaucratic turnover across countries and throughout our study period. But to the extent that personnel turnover negatively impacts

[32] In Appendix Figure F.11, we further show that electoral turnovers do not affect the likelihood of constitutional events, defined as the adoption of a new constitution or a constitutional amendment, using data from the Comparative Constitutions Project.

bureaucratic performance, we should expect this channel to work against our main findings.

Third, turnovers could affect the level of alignment between the central and local governments, which in turn reduces policy frictions (Brollo and Nannicini, 2012). However, unless electoral turnovers at the country level systematically follow turnovers at lower levels of government, the turnovers we study should not be systematically correlated with an increase in political alignment.

Finally, turnovers could affect performance by impacting political stability and trust (on the economic benefits of trust, see for instance Algan and Cahuc (2010)). To evaluate the effects of electoral turnovers on trust in government, we gathered data on executive approval from the Executive Approval Project (Carlin et al., 2019). We find positive effects of turnovers on the approval ratings of the elected leader (see Appendix Figure F.12). However, these effects take a few years to materialize, suggesting that they may be the *consequence* of improved performance outcomes as much as an underlying mechanism.

6 Conclusion

Since the end of World War II, most countries have held regular presidential or parliamentary elections to determine the composition of their government. A key function associated with these elections is to allow citizens to ask for continuity or change in their country's leadership: short of staging a revolution, dismissing incumbents in the ballot box is the main way in which citizens can chart a new course for their country. In order to evaluate the merits of electoral democracy, understanding how the outcome of national elections affects country-level performance—including, but not limited to economic performance—is of major importance. To a large extent, the benefits of electoral transitions are commensurate with their ability to deliver improvements in citizens' welfare.

While other studies have focused on the benefits of democracy, which gives citizens the *opportunity* to remove incumbents from office, we focus on a different question: what happens when citizens seize this opportunity. To answer this question, we build a novel database including the universe of national elections held worldwide since 1945 and combine it with data on economic performance, trade, human development, peace, and the quality of democracy. This large dataset allows us to implement a close-elections RDD across countries, giving our analysis a high degree of internal and external validity. This represents an important advance on the related literature in economics and political science, which has typically studied the consequences of electoral outcomes across local elections within a single country.

While this literature emphasizes the importance of political representation in subnational elections, we do not find significant effects of the age and ideology of leaders on our general index of country performance. We note that these characteristics are only observed for a subset of elections. Still, our analysis suggests that mechanisms of agency and accountability play an even greater role for policy outcomes and performance at the country level. The reason why partisanship effects measured in local elections in some Western democracies do not hold in our data may well be that other dimensions of representation matter more in the rest of the world, particularly in non-OECD countries where our effects are strongest. But regardless of the exact reason, this difference shows that one should be cautious when extrapolating results based on within-country variation, and it underlines the need for sound evidence on the effects of election outcomes at the national level.

Overall, we find that voting for change matters: electoral turnovers deliver improvements in country-

level performance along many dimensions. This finding is both novel and surprising, since there are many reasons to expect that turnovers could be detrimental to economic performance. We also observe large effects on indices of corruption and on policy change. We hypothesize that the main force driving the positive effects of turnovers is the role they play in terms of renewing a country's political leadership, and in allowing new leaders facing stronger reputation concerns to rise to power. Over the long term, this finding provides reasons to be cautiously optimistic about the prospects of electoral democracy.

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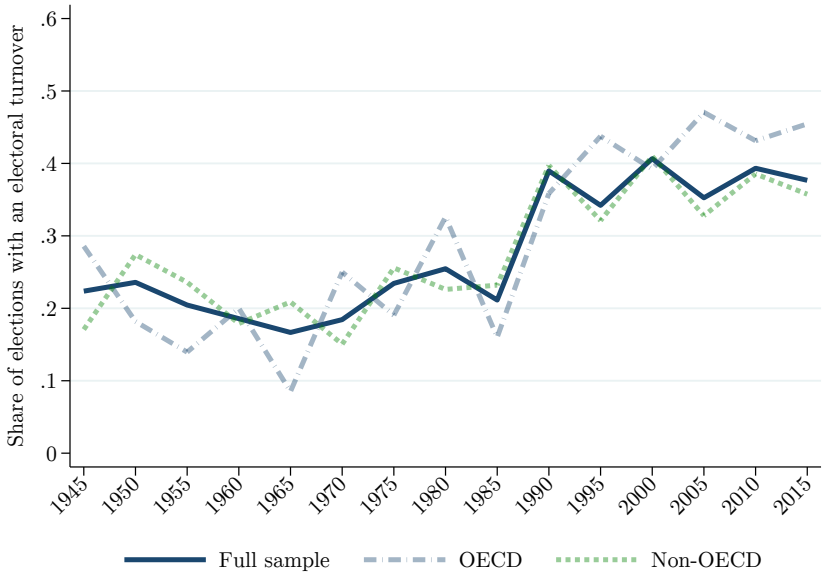
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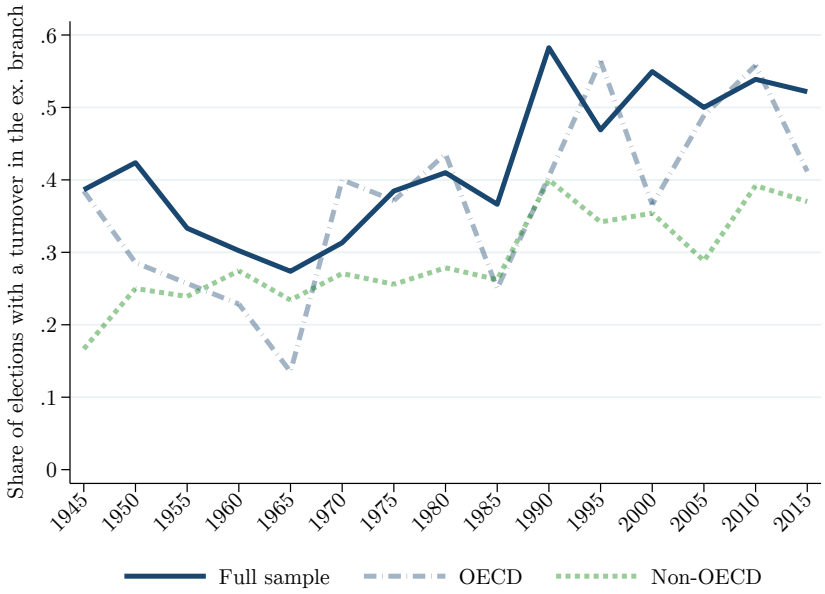
Figures

Figure 1: Share of elections with a turnover

(a) Electoral turnover

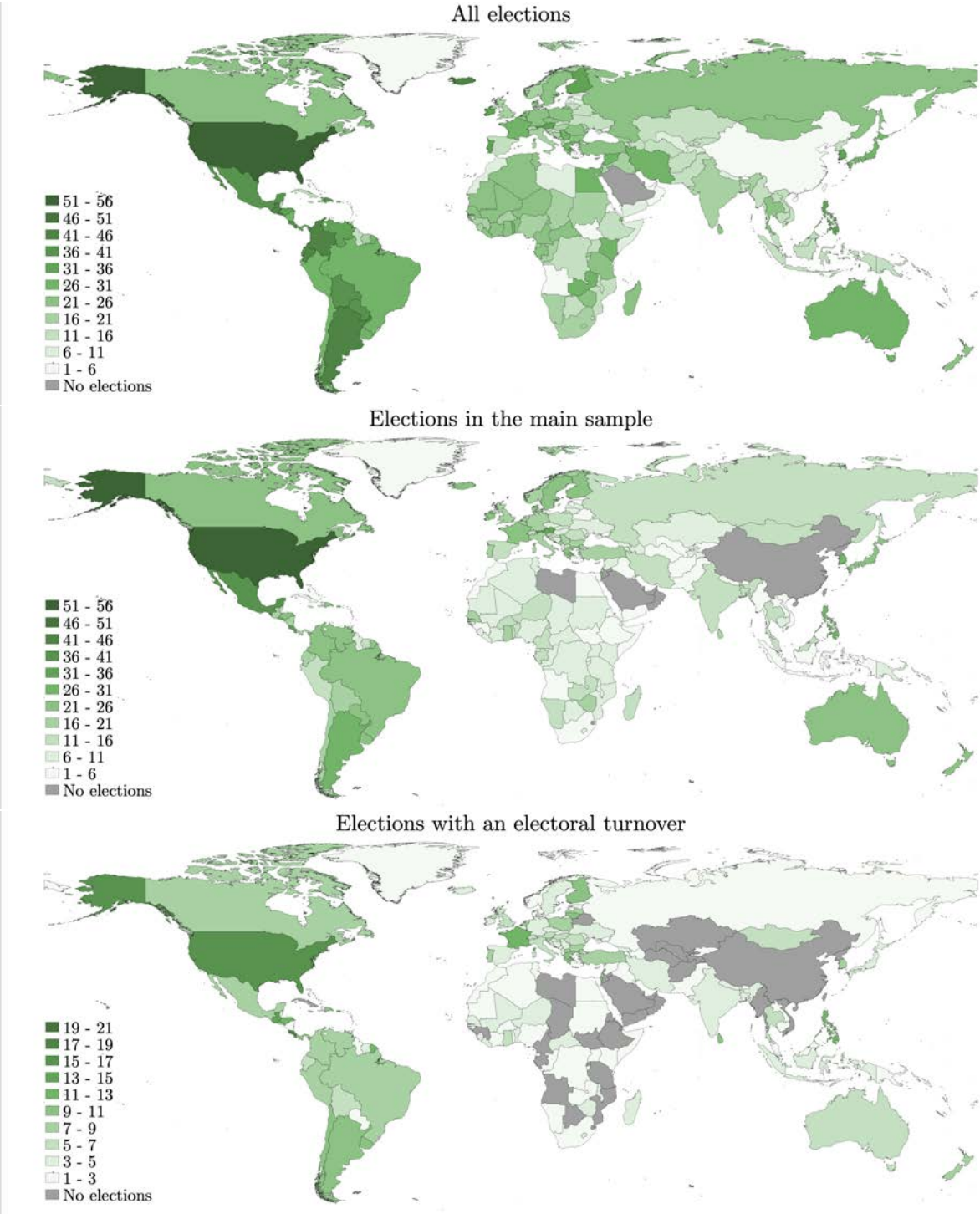


(b) Turnover in the executive branch



Notes: This figure plots the share of elections associated with a turnover for each half-decade since 1945. Panel (a) focuses on electoral turnovers and panel (b) on turnovers in the executive branch. We define electoral turnovers and executive turnovers in Section 3.1 and Section 3.5, respectively.

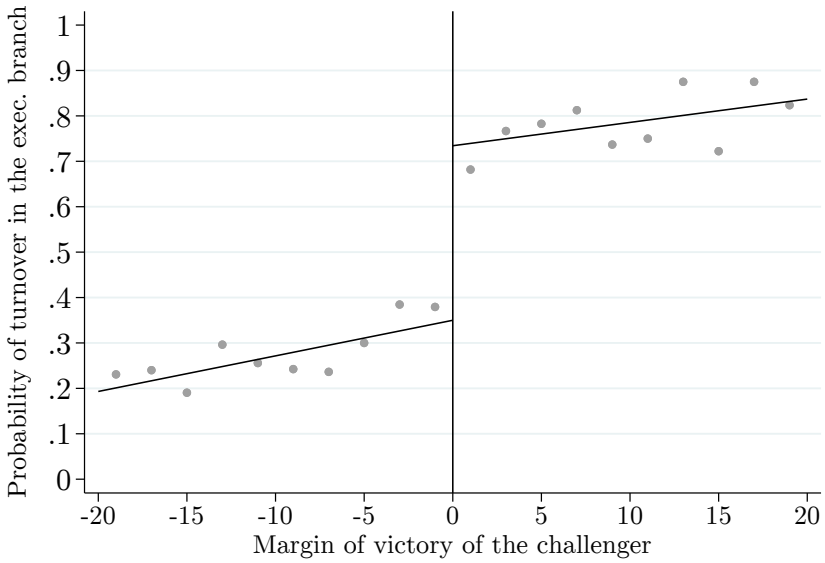
Figure 2: Sample description



Notes: This figure shows the geographic distribution of all presidential and parliamentary elections since 1945, all elections included in our main analysis, and all elections with an electoral turnover (see Sections 3.1 and 3.2).

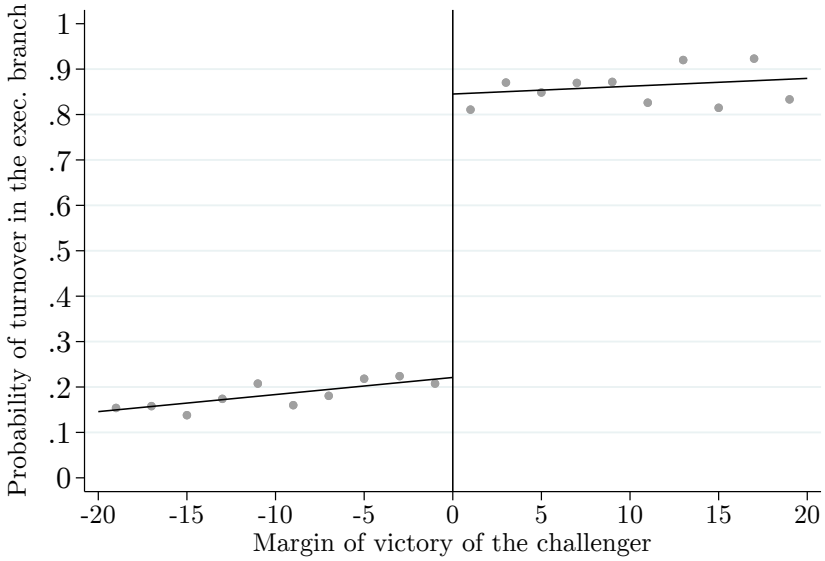
Figure 3: Effect of an electoral turnover on the probability of turnover in the executive branch

(a) Parliamentary elections only



RD est.: 0.378 [0.203 , 0.535] (95% CI). p-value : <0.001

(b) Full sample

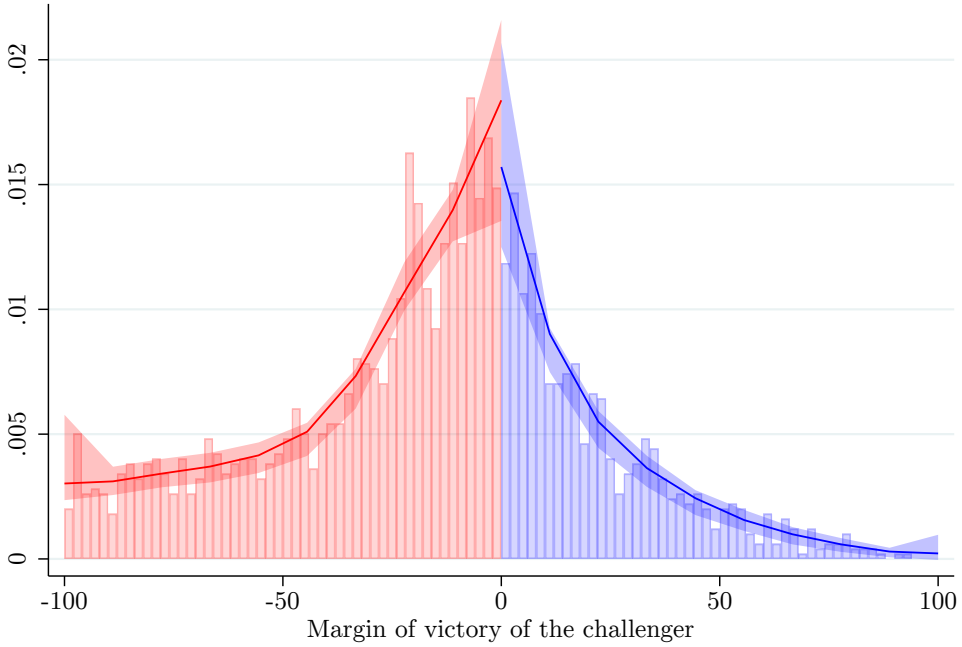


RD est.: 0.617 [0.512 , 0.721] (95% CI). p-value : <0.001

Notes: This figure plots the probability of a turnover in the executive branch depending on the margin of victory of the challenger. Turnovers in the executive branch are defined in Section 3.5. We restrict the sample to elections leading to the designation of a member of the executive, with panel (a) being further restricted to the sample of parliamentary elections. Each grey dot represents the probability of a turnover in the executive branch in a 2pp bin and the lines represent a linear fit on each side of the discontinuity. At the bottom of each graph, we report the non-parametric RD estimate from Calonico et al. (2014), with the robust 95% confidence interval in brackets, as well as the robust p-value associated with the robust confidence interval for γ in equation (1).

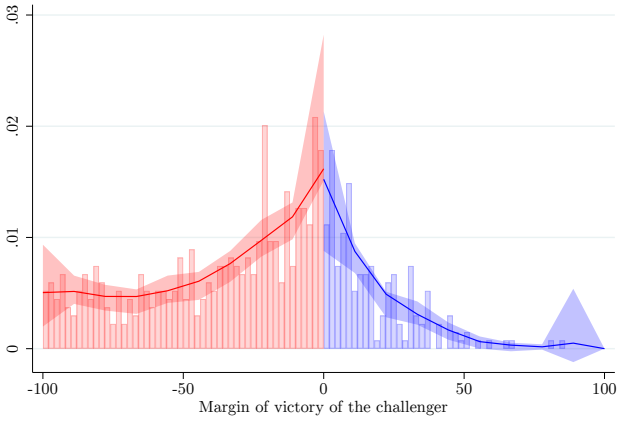
Figure 4: Density tests

(a) Full sample



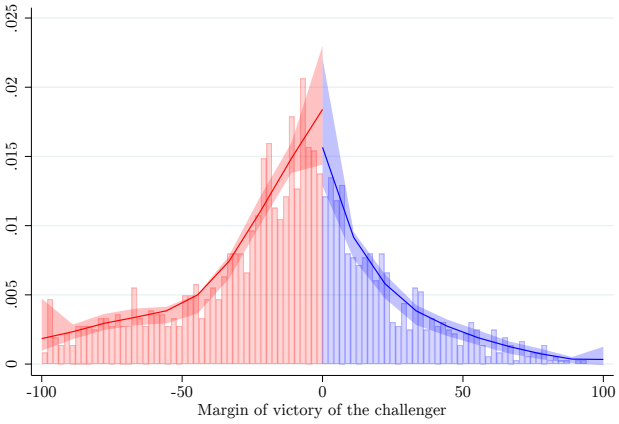
p-value: 0.748

(b) Presidential elections



p-value: 0.177

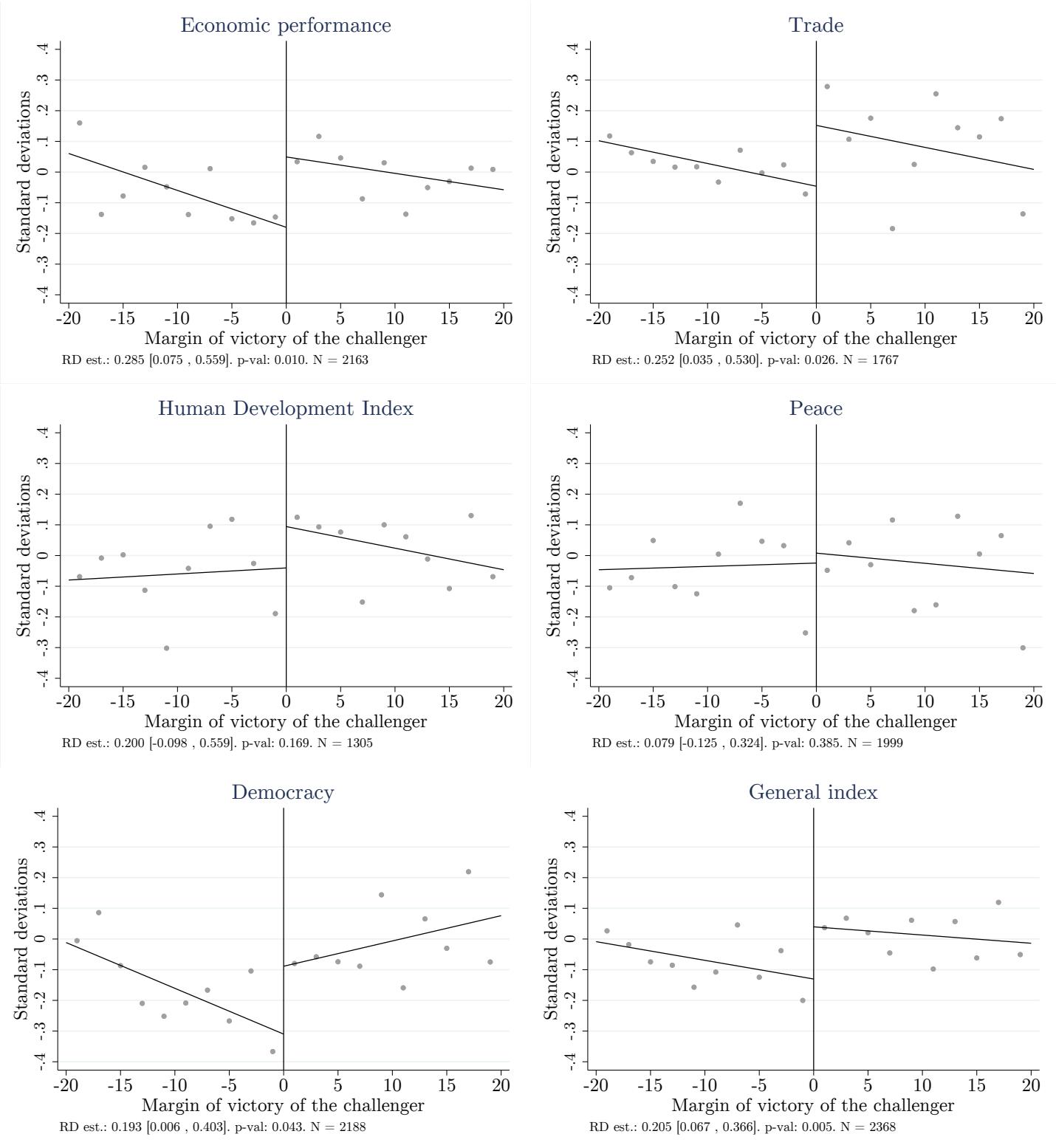
(c) Parliamentary elections



p-value: 0.720

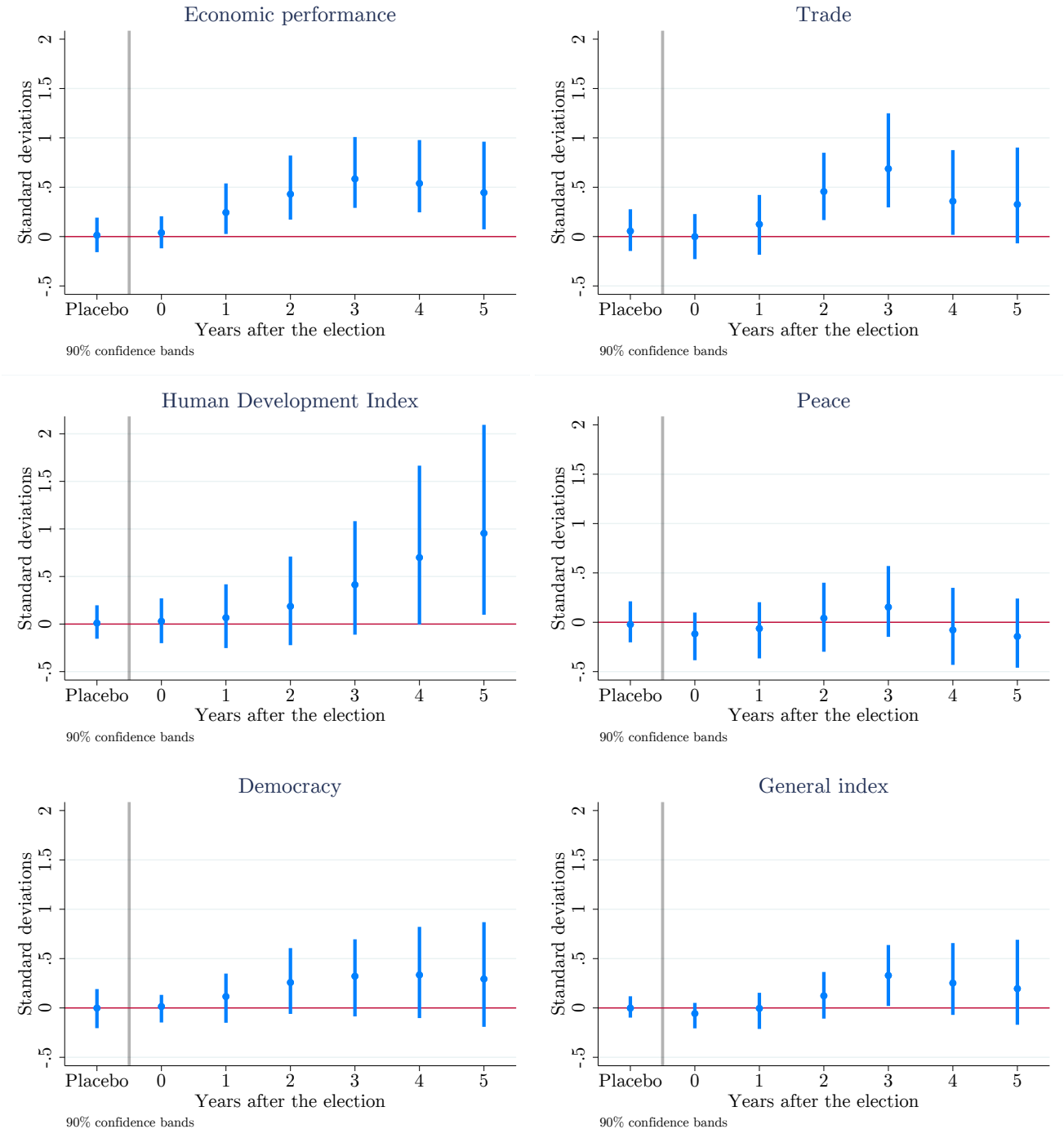
Notes: In this figure, we implement the density test from Cattaneo et al. (2018) using the margin of victory of the challenger as running variable. P-values for this test are reported below each graph, and we plot the density of the running variable on both sides of the cutoff. Panel (a) includes all elections in our sample, and panels (b) and (c) restrict the sample to presidential and parliamentary elections, respectively.

Figure 5: Effects of electoral turnovers on country performance



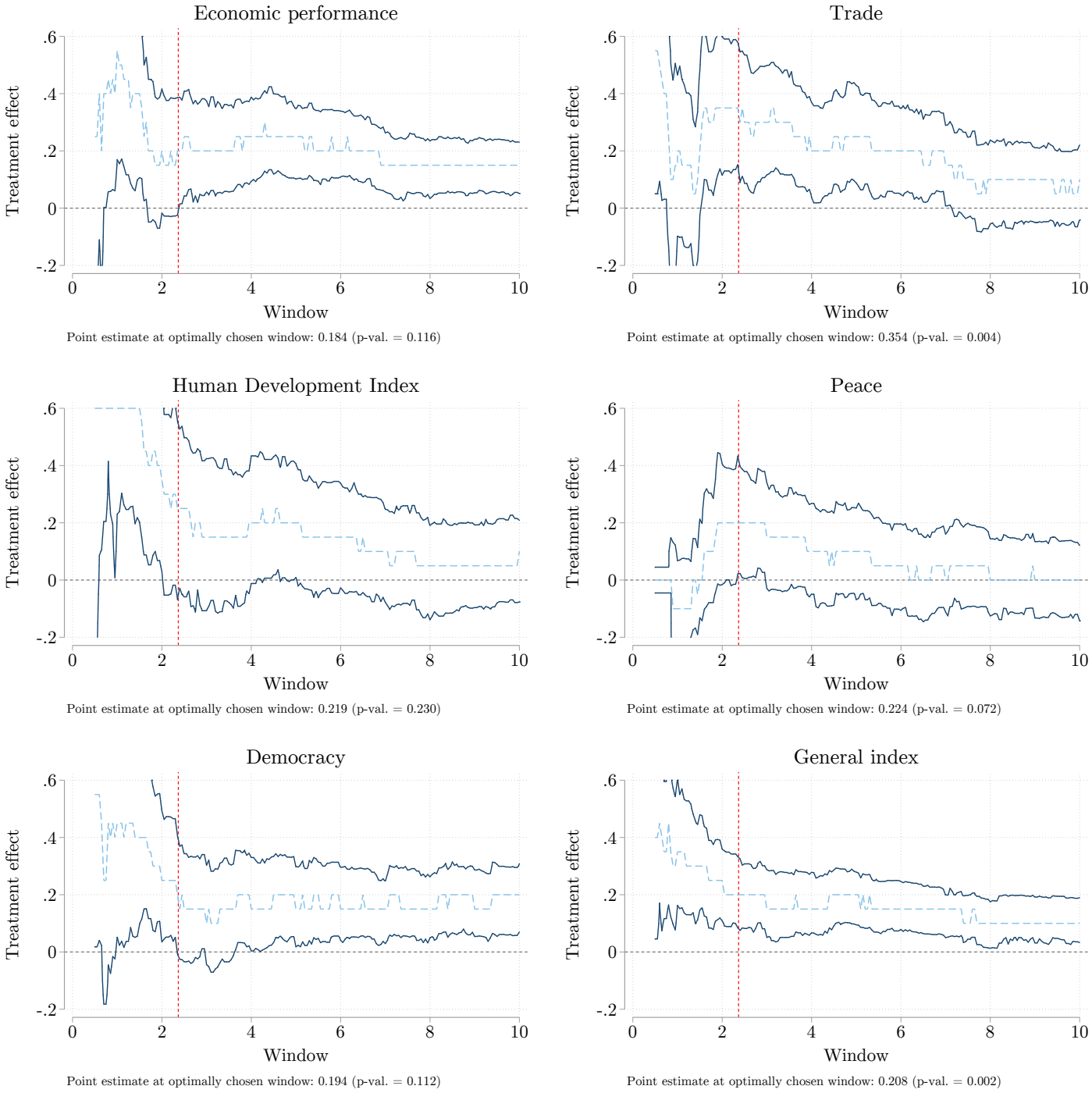
Notes: This figure reports RD plots corresponding to equation (1). The dependent variables are: a standardized index of economic performance (combining GDP growth, inflation, and unemployment), trade intensity, human development, peace, democracy, and a general index of performance combining all these components. The grey dots are sample means across two-percentage-point bins of the running variable. See Section 3.3 for details on the construction of each outcome and data sources. At the bottom of each graph, we report the local linear regression estimate from Calonico et al. (2014), with the robust confidence interval in brackets, as well as the robust p-value associated with the robust confidence interval for γ in equation (1).

Figure 6: Dynamic effects of electoral turnovers on country performance



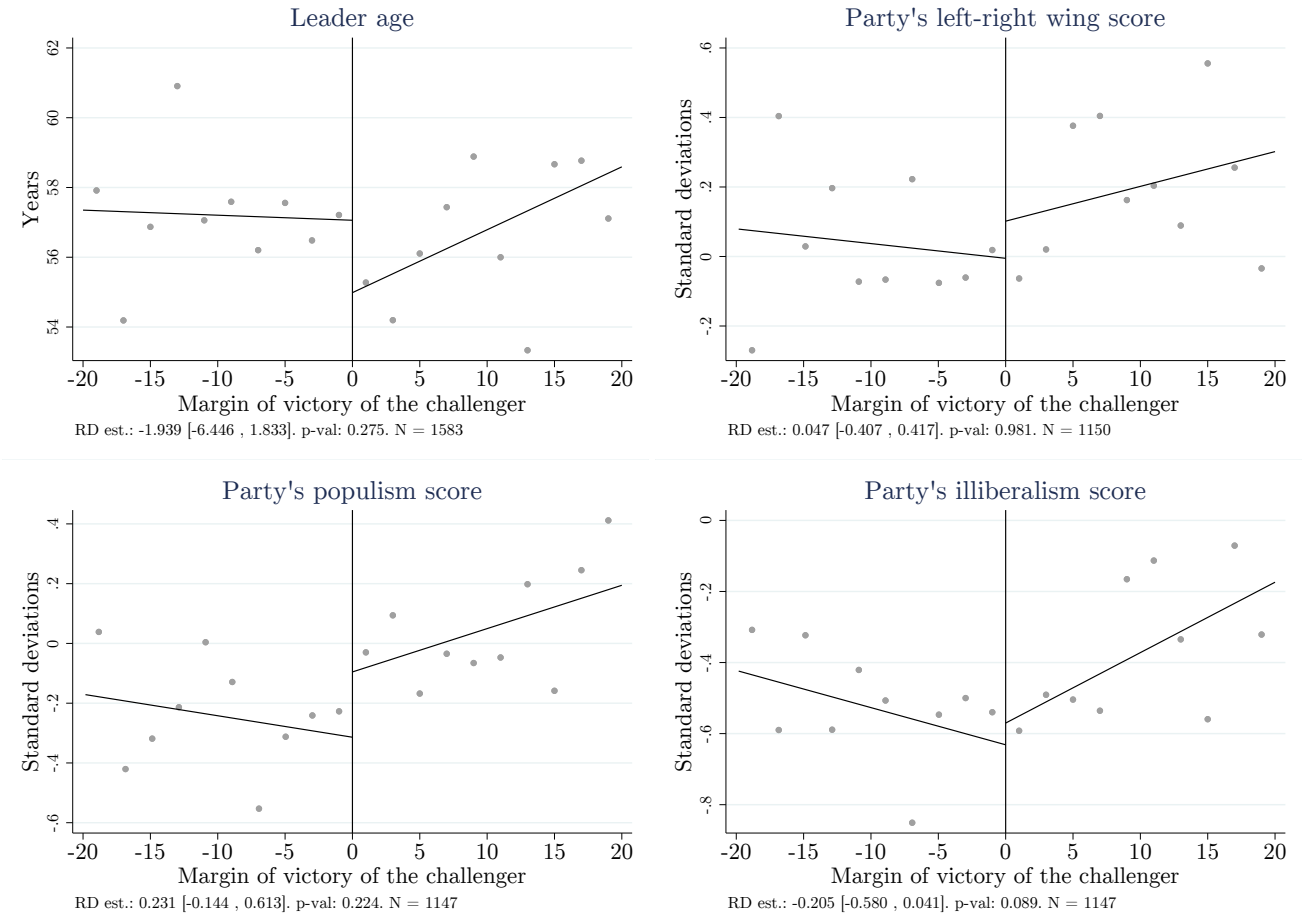
Notes: This figure reports RD point estimates and 90% robust confidence intervals for the γ_τ in equation (3), with $\tau \in \{-2, 0, 1, 2, 3, 4, 5\}$, for all our main outcomes. Placebo refers to the point estimate obtained for $\tau = -2$. We use the procedure of Calonico et al. (2014) for estimation, and all outcomes are measured in standard deviations.

Figure 7: Randomization inference results



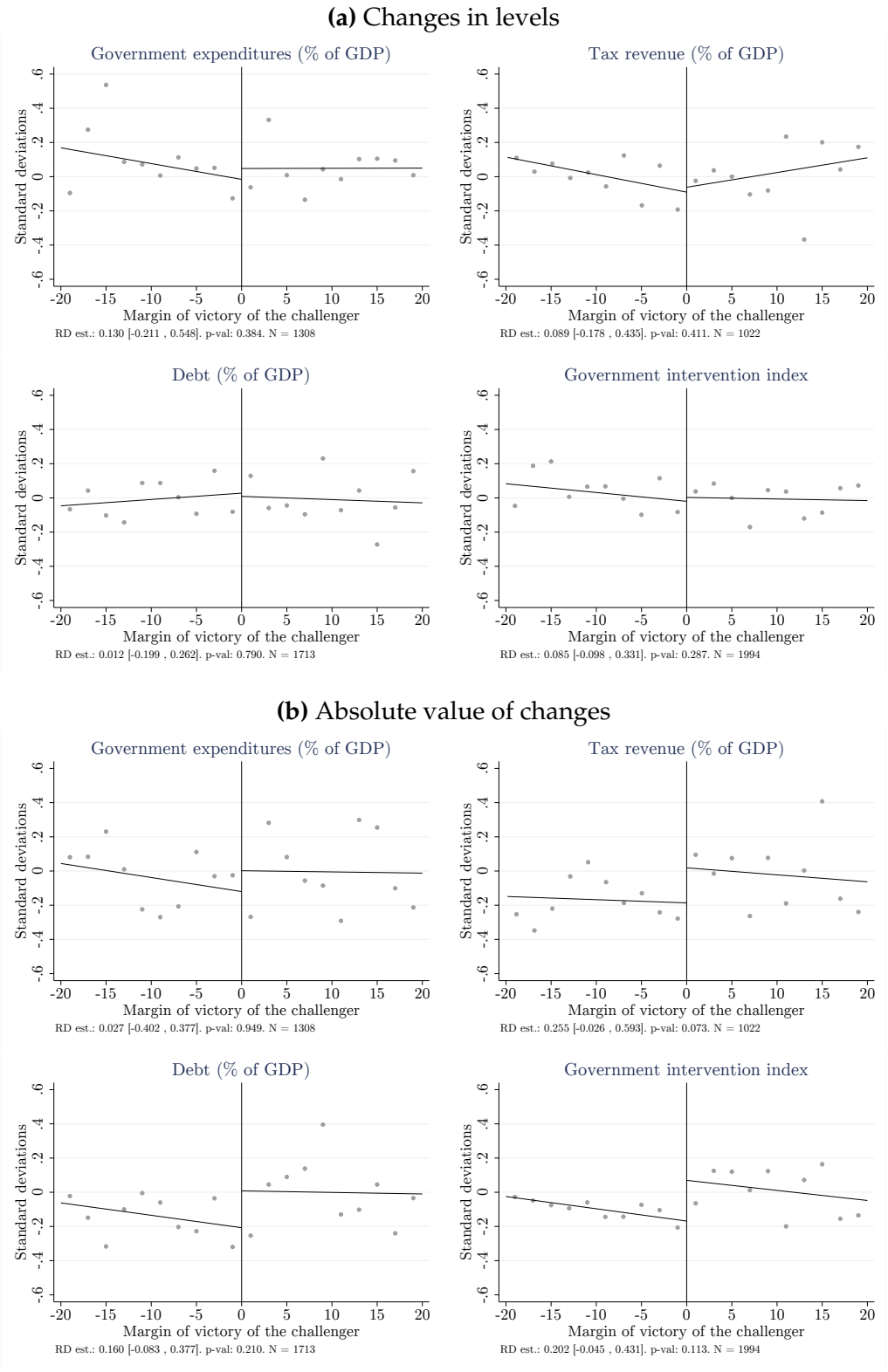
Notes: This figure reports results obtained using the difference in means estimator suggested by Cattaneo et al. (2016). For different windows, the solid lines correspond to 90% confidence bands, and the dashed lines correspond to point estimates. The vertical line corresponds to the optimal window under which the local randomization assumption is expected to hold, selected using the procedure of Cattaneo et al. (2015). To estimate this optimal window, we used the following set of pre-election covariates: the level of our main outcome variables the year before the election, the value of the treatment variable at the previous election, and the value of the running variable at the previous election. We jointly test the local randomization hypothesis of all covariates using the Hotelling T^2 test of Cattaneo et al. (2016). Under each graph, we report the p-value of the randomization inference test at this optimal window.

Figure 8: Effects of electoral turnovers on candidate characteristics



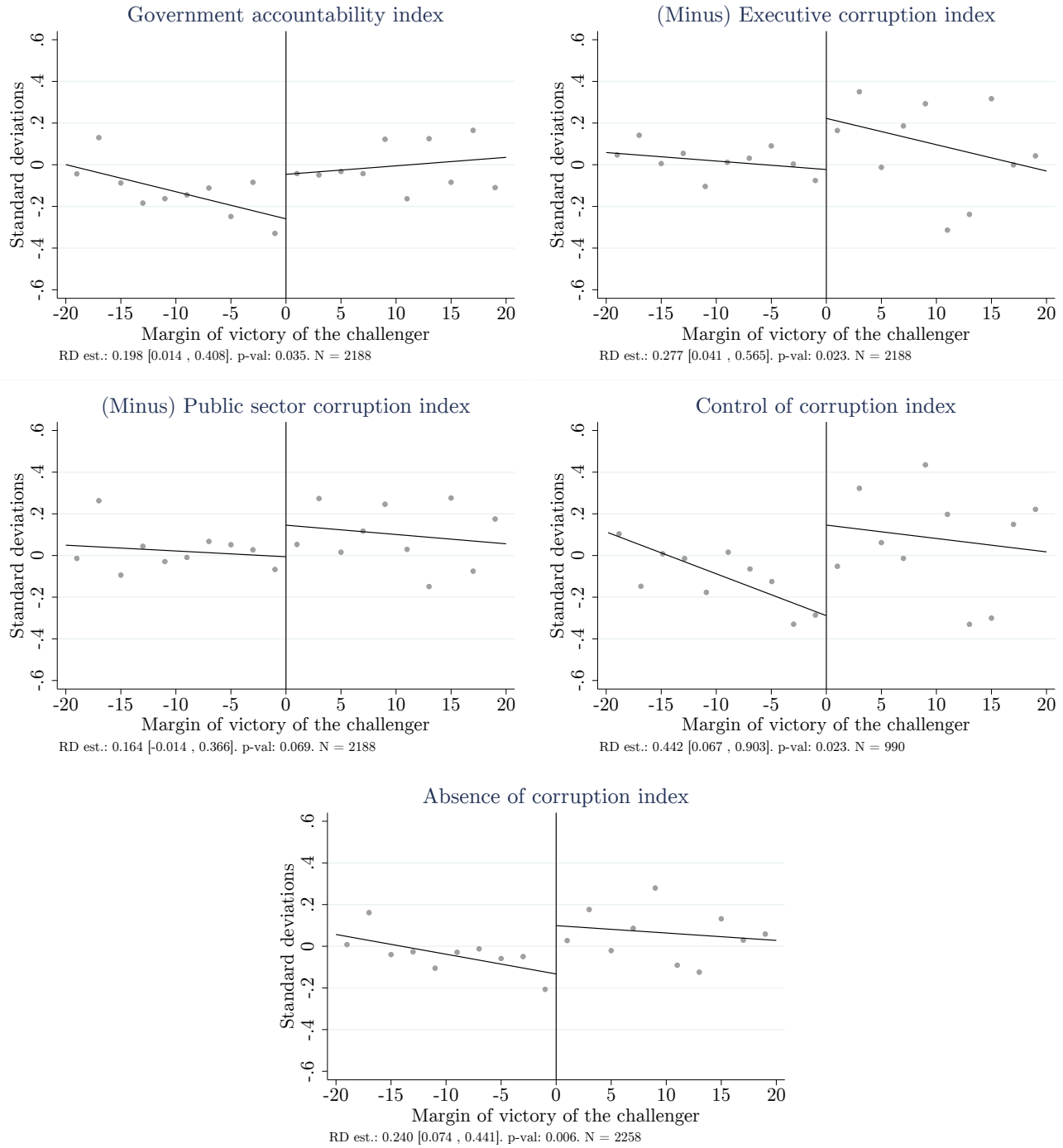
Notes: This figure reports RD plots corresponding to equation (1). The dependent variables are the age of the leader elected during the election as well as the left-wing score, the populism score, and the illiberalism score of the party in power after the election. For the leader's age, we restrict the sample to elections which lead to the nomination of a leader of the executive branch, and retrieve data from V-Dem. The outcome we consider is the age of the elected leader on December 31st of the year following the election. Ideology scores are retrieved from V-Parties. The grey dots are sample means across two-percentage-point bins of the running variable. At the bottom of each graph, we report the local linear regression estimate from Calonico et al. (2014), with the robust confidence interval in brackets, as well as the p-value associated with the robust confidence interval for γ in equation (1).

Figure 9: Effects of electoral turnovers on government intervention



Notes: This figure reports RD plots corresponding to equation (1). The dependent variables are measures of government intervention in the economy: government expenditure (from Our World in Data), tax revenue (from the World Bank), and debt (from the IMF) – all measured as a share of GDP. We also report results for an index combining these three measures. Panel (a) looks at changes in the levels of these variables and panel (b) at the absolute value of these changes. The grey dots are sample means across two-percengage-point bins of the running variable. At the bottom of each graph, we report the local linear regression estimate from Calonico et al. (2014), with the robust confidence interval in brackets, as well as the p-value associated with the robust confidence interval for γ in equation (1).

Figure 10: Effects of electoral turnovers on governance and corruption



Notes: This figure reports RD plots corresponding to equation (1). The dependent variables are indices of government accountability, executive corruption, public sector corruption, and the control of corruption. The government accountability, executive corruption, and public sector corruption indices are from V-Dem (see Section 5.3 for details). The executive corruption index measures the corruption of members of the executive and their agents while the public sector corruption index measures the corruption of public sector employees. Corruption is defined as bribery and the stealing, embezzlement, or misappropriation of public funds. The control of corruption index is one of the six Worldwide Governance Indicators of the World Bank. Finally, the absence of corruption index aggregates the four previous components using the method of Kling et al. (2007). The grey dots are sample means across two-percentage-point bins of the running variable. At the bottom of each graph, we report the local linear regression estimate from Calonico et al. (2014), with the robust confidence interval in brackets, as well as the p-value associated with the robust confidence interval for γ in equation (1).

Tables

Table 1: Outcome variables

Category	Variable	More is...	Source	N	Coverage	Winsor.
Economic	GDP growth	Positive	Penn World Tables	2915	1951–2014	Yes
Economic	Inflation (CPI)	Negative	IMF	2782	1945–2020	Yes
Economic	Unemployment rate	Negative	ILO	1800	1991–2022	Yes
Trade	Trade intensity	Positive	World Bank	2655	1960–2020	Yes
Social	HDI	Positive	UNDP	1781	1990–2019	No
Conflict	In war	Negative	COW Project	3358	1945–2016	No
Democracy	Democracy index	Positive	V-Dem	3599	1945–2020	No

Notes: This table lists the variables which we use to measure country performance. N is the number of elections after 1945 for which we have available data.

Table 2: Effects of electoral turnovers on country performance

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	0.285**	0.050	0.431**	0.218	0.252**	0.200	0.079	0.193**	0.205***
	(0.123)	(0.154)	(0.192)	(0.168)	(0.126)	(0.168)	(0.114)	(0.101)	(0.076)
p-val.	[0.010]	[0.761]	[0.011]	[0.104]	[0.026]	[0.169]	[0.385]	[0.043]	[0.005]
N	2163	1815	1887	1331	1767	1305	1999	2188	2368
N eff.	821	872	723	674	760	562	876	1193	904
Band.	15.2	20.7	14.8	21.7	17.2	17.9	18.3	23.6	15.6

Notes: This table reports RD estimates corresponding to equation (1) for our measures of country performance, expressed in standard deviation terms. We report local linear regression estimates from Calonico et al. (2014), robust standard errors in parentheses, the p-value associated with the robust confidence interval in brackets, the number of observations in the sample and in the bandwidth, and the MSERD-optimal bandwidth. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table 3: Heterogeneity by election type, regime type, and OECD membership

		Election type		Regime type		OECD	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Baseline	Pres.	Parl.	Democ.	Autoc.	Yes	No
Economic performance	0.285**	0.471**	0.190	0.264**	0.288	0.210*	0.323**
	(0.123)	(0.240)	(0.134)	(0.130)	(0.306)	(0.125)	(0.180)
Trade	0.252**	0.236*	0.218	0.250*	0.326	0.339*	0.169
	(0.126)	(0.176)	(0.164)	(0.142)	(0.368)	(0.204)	(0.169)
HDI	0.200	0.460*	0.048	0.120	0.495	0.465*	0.056
	(0.168)	(0.286)	(0.203)	(0.166)	(0.639)	(0.283)	(0.214)
Peace	0.079	0.300*	0.041	0.063	0.061	0.150	0.008
	(0.114)	(0.236)	(0.126)	(0.103)	(0.383)	(0.216)	(0.141)
Democracy	0.193**	0.224	0.165	0.130	0.846**	0.059	0.328**
	(0.101)	(0.260)	(0.132)	(0.106)	(0.360)	(0.142)	(0.156)
General index	0.205***	0.298***	0.155*	0.159**	0.411**	0.159	0.215**
	(0.076)	(0.124)	(0.089)	(0.079)	(0.197)	(0.111)	(0.104)

Notes: This table reports estimated effects of electoral turnovers for different subsamples. Each estimate corresponds to a separate regression. Democracies are regimes labeled as electoral democracies or liberal democracies by V-Dem. Autocracies are regimes labeled as electoral autocracies and closed autocracies by V-Dem. For OECD membership, we consider as members the 30 countries that were members of the OECD at the beginning of 2010. Using the method of Clogg et al. (1995), we cannot reject the equality of the estimates for the general index for presidential and parliamentary elections (p-val. = 0.347), democracies and autocracies (p-val. = 0.234), and OECD and non-OECD countries (p-val. = 0.714). We obtain broadly consistent results when running a parametric regression in which we include the interaction between the treatment and the dimension of heterogeneity. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table 4: Heterogeneity by constraints on the executive

		Checks and balances		Leader power		Globalization		Term limit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Baseline	High	Low	High	Low	High	Low	No
Economic performance	0.285**	0.128	0.379**	0.407***	0.024	0.234*	0.386**	0.197*
	(0.123)	(0.128)	(0.199)	(0.163)	(0.184)	(0.142)	(0.195)	(0.127)
Trade	0.252**	0.248	0.209	0.466***	0.306	0.316*	0.199	0.215*
	(0.126)	(0.186)	(0.210)	(0.191)	(0.234)	(0.210)	(0.143)	(0.139)
HDI	0.200	0.226	0.149	0.187	0.221	0.317	0.093	0.045
	(0.168)	(0.272)	(0.242)	(0.219)	(0.269)	(0.249)	(0.255)	(0.187)
Peace	0.079	0.131	0.036	0.065	–0.118	0.060	0.306	0.064
	(0.114)	(0.147)	(0.171)	(0.161)	(0.163)	(0.132)	(0.238)	(0.131)
Democracy	0.193**	0.051	0.298*	0.239	–0.082	0.056	0.517***	0.178
	(0.101)	(0.060)	(0.195)	(0.189)	(0.151)	(0.145)	(0.199)	(0.119)
General index	0.205***	0.150**	0.241**	0.311***	0.049	0.291***	0.380***	0.152*
	(0.076)	(0.071)	(0.134)	(0.113)	(0.116)	(0.095)	(0.117)	(0.082)

Notes: This table reports estimated effects of electoral turnovers for different subsamples. Each estimate corresponds to a separate regression. Checks and balances are measured as the average of two V-Dem indices: the judicial constraints on the executive index and the legislative constraints on the executive index. The power enjoyed by the elected leader is an aggregate of power measures from V-Dem: power to dissolve the legislature, to appoint and dismiss ministers, and to propose and veto legislation (see Appendix A.4.2 for more details). We proxy globalization with trade intensity. For these three dimensions of heterogeneity, we consider the value of the variable in the year before each election, compute the median among close elections (i.e., elections for which the running variable is under 15 percentage points in absolute value), and split the sample between elections above and below the median. In column (8), we restrict the sample to parliamentary elections and presidential elections for which there were no differentially binding term limits for the incumbent and the best ranked challenger. Using the method of Clogg et al. (1995), we cannot reject the equality of the estimates for the general index for high and low checks and balances (p-val. = 0.549), high and low leader power (p-val. = 0.105), and high and low globalization (p-val. = 0.555). We obtain broadly consistent results when running a parametric regression in which we include the interaction between the treatment and the dimension of heterogeneity. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table 5: Effects of turnovers in the executive branch on country performance

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
Panel A: Fuzzy RDD (Effects of an executive turnover)									
Ex. turn.	0.333**	–0.033	0.400*	0.805***	0.495***	0.522**	–0.170	0.058	0.236**
	(0.193)	(0.215)	(0.255)	(0.330)	(0.196)	(0.260)	(0.164)	(0.161)	(0.116)
p-val.	[0.029]	[0.987]	[0.056]	[0.005]	[0.003]	[0.023]	[0.396]	[0.879]	[0.016]
N	1553	1288	1378	962	1240	940	1421	1529	1682
N eff.	701	685	675	443	553	465	832	831	704
Band.	18.2	22.7	19.6	18.7	16.9	20.7	25.8	22.5	16.6
Panel B: Reduced form (Effects of a defeat of the leading party before the election)									
El. defeat	0.250**	–0.024	0.316*	0.588***	0.355***	0.362**	–0.096	0.027	0.175**
	(0.138)	(0.161)	(0.189)	(0.233)	(0.143)	(0.189)	(0.126)	(0.109)	(0.084)
p-val.	[0.032]	[0.990]	[0.051]	[0.004]	[0.004]	[0.035]	[0.519]	[0.963]	[0.019]
N	1553	1288	1378	962	1240	940	1421	1529	1682
N eff.	618	673	575	385	516	429	611	738	641
Band.	15.4	22.4	15.8	15.5	15.3	18.6	17.0	19.8	14.4
Panel C: First stage (Effects of a defeat of the leading party before the election on the probability of an executive turnover)									
El. defeat	0.697***	0.745***	0.685***	0.691***	0.678***	0.688***	0.667***	0.660***	0.684***
	(0.067)	(0.062)	(0.070)	(0.077)	(0.075)	(0.081)	(0.059)	(0.064)	(0.068)
p-val.	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]
N	1553	1288	1378	962	1240	940	1421	1529	1682
N eff.	701	685	675	443	553	465	832	831	704
Band.	18.2	22.7	19.6	18.7	16.9	20.7	25.8	22.5	16.6

Notes: This table reports estimated effects of turnovers in the executive branch for the sample of elections leading to the appointment of a leader in the executive branch. In Panel A, we report fuzzy RDD estimates of the effect of executive turnovers, using as assignment variable the defeat of the leading party before the election and turnover in the executive branch as treatment. We show estimates of γ in equation (4) – see Appendix B.3. In Panel B, we report reduced form estimates of γ^r in equation (6) – see Appendix B.3, corresponding to the effects of an electoral defeat of the leading party before the election. We use the margin of victory of the best ranked challenger of the leading party before the election as the running variable. In Panel C, we report estimates of $\tilde{\gamma}$ in equation (5), corresponding to the first stage of Panel A. Details about the definition of the leading party before the election can be found in Section 3.5. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table 6: Effects of candidate characteristics on country performance

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
Panel A: Effects of the victory of a younger leader									
Victory	–0.124	–0.164	–0.131	0.162	–0.015	–0.212	–0.131	0.091	–0.026
	(0.115)	(0.170)	(0.170)	(0.208)	(0.134)	(0.175)	(0.133)	(0.111)	(0.074)
p-val.	[0.253]	[0.325]	[0.465]	[0.329]	[0.854]	[0.119]	[0.219]	[0.314]	[0.629]
N	1412	1191	1258	879	1142	865	1300	1379	1508
N eff.	829	666	636	467	676	416	647	862	927
Band.	22.6	22.0	17.7	19.8	22.5	16.7	18.3	24.1	24.3
Panel B: Effects of the victory of the most left-wing party									
Victory	–0.045	0.019	–0.004	–0.200	–0.042	0.052	0.023	–0.017	–0.026
	(0.116)	(0.133)	(0.177)	(0.180)	(0.129)	(0.183)	(0.122)	(0.124)	(0.080)
p-val.	[0.783]	[0.844]	[0.984]	[0.300]	[0.531]	[0.958]	[0.770]	[0.767]	[0.566]
N	1708	1475	1539	1064	1453	1036	1588	1772	1773
N eff.	908	1008	747	573	748	494	860	876	830
Band.	18.9	27.6	16.3	18.9	17.7	15.3	19.5	17.1	16.0
Panel C: Effects of the victory of the most populist party									
Victory	–0.028	0.003	–0.022	0.034	0.062	0.122	–0.079	–0.174*	–0.069
	(0.114)	(0.134)	(0.174)	(0.185)	(0.115)	(0.172)	(0.130)	(0.118)	(0.079)
p-val.	[0.838]	[0.973]	[0.845]	[0.770]	[0.698]	[0.621]	[0.411]	[0.092]	[0.248]
N	1701	1471	1532	1058	1448	1031	1583	1765	1766
N eff.	935	993	754	562	904	563	775	862	808
Band.	19.8	26.9	16.5	18.5	22.9	18.9	16.7	16.7	15.1
Panel D: Effects of the victory of the most illiberal party									
Victory	–0.100	–0.371**	–0.030	0.166	0.028	–0.096	–0.094	–0.162	–0.072
	(0.121)	(0.166)	(0.194)	(0.186)	(0.130)	(0.192)	(0.141)	(0.126)	(0.075)
p-val.	[0.272]	[0.010]	[0.711]	[0.324]	[0.884]	[0.475]	[0.485]	[0.206]	[0.310]
N	1664	1436	1495	1037	1415	1010	1546	1727	1728
N eff.	749	642	627	502	736	528	683	810	901
Band.	14.8	14.7	12.9	16.5	18.3	17.7	14.1	16.1	18.6

Notes: This table reports RD estimates from equation (2). The running variable is the margin of victory of the party represented by the youngest leader among the top two parties, in Panel A; the margin of victory of the most left-wing party among the top two parties, in Panel B; the margin of victory of the most populist party among the top two parties, in Panel C; and the margin of victory of the most illiberal party among the top two parties, in Panel D. For details on how we characterize leaders and parties, see Appendices A.2 and A.3. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table 7: Effects of electoral turnovers on governance and corruption

		Election type		OECD		Leader power	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Baseline	Pres.	Parl.	Yes	No	High	Low
Government accountability index	0.198**	0.205	0.180	0.049	0.349**	0.274*	–0.096
	(0.100)	(0.258)	(0.123)	(0.133)	(0.154)	(0.175)	(0.133)
(Minus) Executive corruption index	0.277**	0.427	0.207*	0.209	0.286*	0.266	0.186*
	(0.134)	(0.311)	(0.138)	(0.169)	(0.173)	(0.289)	(0.128)
(Minus) Public sector corruption index	0.164*	0.426*	0.061	0.015	0.250*	0.252	–0.034
	(0.097)	(0.263)	(0.094)	(0.068)	(0.154)	(0.210)	(0.116)
Control of corruption	0.442**	0.650	0.354	0.112	0.537**	1.01***	0.120
	(0.213)	(0.424)	(0.277)	(0.343)	(0.258)	(0.379)	(0.288)
Absence of corruption index	0.240***	0.385	0.172*	0.077	0.369***	0.345**	–0.001
	(0.093)	(0.256)	(0.088)	(0.094)	(0.147)	(0.185)	(0.097)

Notes: This table reports RD estimates corresponding to equation (1) for our measures of governance and corruption, expressed in standard deviation terms, in the main sample (column 1) and in different subsamples (columns 2 to 7). See Table 4 for the definition of the subsamples of leaders with high and low power. Using the method of Clogg et al. (1995), we can marginally reject the equality of the estimates for the absence of corruption index for OECD and non-OECD countries (p-val. = 0.094), and for high and low leader power (p-val. = 0.098), but not for presidential and parliamentary elections (p-val. = 0.431). We obtain broadly consistent results when running a parametric regression in which we include the interaction between the treatment and the dimension of heterogeneity. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

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A Data Construction

In this appendix, we describe our data collection. Our dataset includes information on elections, national leaders, political parties, political regimes, and country-level outcomes. We also describe how we constructed the key variables used in our analysis.

A.1 Election Data

A.1.1 Sampling Frame

To construct our database of election results, we first defined a sampling frame, aiming to capture the universe of presidential and parliamentary elections which took place since 1945. To do so, we identified all elections mentioned in the following data sources: V-Dem, IDEA, Nohlen, DPI, PARLGOV, MP, CLEA, and GLOBAL (we indicate the exact references below).[33] V-Dem provides us with most of the elections in this sampling frame. Other sources, such as Nohlen and IFES, complete this list with elections in small countries absent from V-Dem.

For each election in the sampling frame, we searched for a source giving us election results. If results could not be found in one of the consolidated databases, we tried to find results in the academic sources described below. We used Wikipedia when academic sources lacked sufficient information. For some elections, we gathered results from different sources in order to perform validity checks. We checked that the results provided in these sources were consistent and tried to find alternative sources in case of inconsistencies, as described below.

A.1.2 Data Sources

We collected data on elections from the following sources:

1. V-Dem (Coppedge et al., 2021);
2. Parliaments and Governments (PARLGOV) database (Döring and Manow, 2012);
3. Manifesto Project (MP) (Volkens et al., 2020);
4. Books by Dieter Nohlen and coauthors (Nohlen et al., 1999, 2001a,b; Nohlen, 2005; Nohlen et al., 2005; Nohlen and Stöver, 2010);
5. Database of Political Institutions (DPI) (Cruz et al., 2018);
6. Global Elections Database (GLOBAL) (Brancati, 2016);
7. Adam Carr's Psephos election archive (AC) (Carr, 2003);
8. African Elections Database (AED) (Nunley, 2007);
9. European Elections Database (EED) (Budge et al., 2001; Klingemann et al., 2006; Rose and Munro, 2009; Colomer, 2008)
10. Political Database of the Americas (PDA) (Georgetown University, 2002);
11. Inter-parliamentary Union PARLINE database (IPU) (Inter-Parliamentary Union, 2017);
12. International Institute for Democracy and Electoral Assistance (IDEA) (Pintor et al., 2002);
13. International Foundation for Electoral Systems (IFES) (ElectionGuide, 2017);
14. Constituency-Level Elections Archive (CLEA) (Kollman et al., 2011);
15. USA presidential elections database (USA) (National Archives, 2020);
16. Wikipedia (when academic sources were lacking).

[33] Although CLEA was used to build the sampling frame, we did not use this dataset to populate election results variables because of the frequent inconsistencies between this database and other sources. We sometimes find in the non-consolidated sources data on elections absent from the sampling frame. Such cases are added to the database.

Among these sources, some provide consolidated databases that we could download directly (IDEA, DPI, PARLGOV, MP, GLOBAL, and V-Dem). In others, data were available in the form of non-standardized webpages, which we found unsuitable for web-scraping (AC, AED, PDA, USA, IPU, Wikipedia). For these sources, we entered data manually. Part of the Adam Carr database as well as the IFES dataset were recovered through web-scraping. The books by Nohlen and coauthors provide data on election results in a standardized manner, but had not yet been digitized to our knowledge. We digitized the sections of all books which were relevant to our analysis.

For every election included in our database, we searched for data on vote shares (for presidential elections) and seat shares (for parliamentary elections). We checked the consistency of the data within each source, as described in Section A.1.4.

When associating each presidential and parliamentary election with election results, we used the following rules to prioritize across sources:

- We prioritized academic sources over non-academic sources;
- Among academic sources, we prioritized the most commonly used sources, sources showing fewer inconsistencies, and sources with a larger coverage in terms of countries and years.

Specifically, for presidential elections, we used the following priority order:

$$\text{Nohlen} \succ \text{AC} \succ \text{AED} \succ \text{USA} \sim \text{EED} \sim \text{PDA} \succ \text{IDEA} \succ \text{IFES} \succ \text{Wikipedia}$$

For parliamentary elections, we used the following priority order:

$$\text{PARLGOV} \succ \text{MP} \succ \text{Nohlen} \succ \text{DPI} \succ \text{GLOBAL} \succ \text{AC} \succ \text{AED} \sim \text{PDA} \succ \text{IPU} \succ \text{IDEA} \succ \text{IFES} \succ \text{Wikipedia}$$

A.1.3 Parliamentary Elections: Special Rules

Multicameral parliaments. We gathered data on election results for all unicameral parliaments, as well as the results for the lower chamber of bicameral parliaments. In the rare instances of tricameral parliaments, we collected results for the chamber that V-Dem considers to be the lower chamber.

Constituent assemblies. Our dataset does not include election results for constituent assembly elections. We defined constituent assemblies as assemblies whose role is only to draft and adopt a new constitution. Assemblies that come to perform functions beyond drafting and adopting a new constitution (e.g., legislating, electing the president, adopting budgets, etc.) are not considered as constituent assemblies. We used V-Dem, which follows this definition, to flag constituent assembly elections.

Appointed seats. In several countries, some seats in parliament are not elected but appointed. Our database only contains data for elected seats and does not provide partisan information for appointed seats. We included a flag for elections in which some seats in the parliament are appointed. Another variable indicates the number of seats which are appointed.

When our sources include the seat shares of each party, we use this information. In other cases, we compute seat shares by dividing the number of seats for each party by the total number of seats in parliament (including both elected and appointed seats). Due to manipulation concerns, we do not include parliamentary elections involving appointed seats in our analysis, as described in Appendix B.1.

Coalitions. While gathering data on parliamentary elections, we were especially vigilant when encountering cases of coalitions. We distinguish between two types of parliamentary coalitions:

1. **Ex-ante coalitions**, i.e. coalitions formed before the election, between parties which decide to campaign together in the election and formally commit to forming a common block in parliament. An example of such a coalition is the CDU/CSU coalition in Germany.

2. **Ex-post coalitions**, i.e. coalitions formed after the elections have been held. An example of such a coalition is the *Große Koalition* between 2013-2021 in Germany (a coalition between the CDU/CSU alliance and the SPD).

Ex-post coalitions are endogenous to election results, so their members are kept as separate entities in our dataset. However, we grouped together parties belonging to the same ex-ante coalition. For example, for recent German elections, there is no entry for "CDU" nor "CSU," but a unique entry for "CDU/CSU." The number of seats associated with a coalition is the sum of seats won by all parties of the coalition. We considered that there was an ex-ante coalition when at least one of the following conditions was met:

- The parties have a mutual non-compete agreement (they do not compete against each other in the same constituency). The CDU-CSU coalition satisfies this criterion.
- In multiple-round elections, parties in the coalition have an ex ante agreement that they will coordinate around the best-placed candidate in the first round. *La gauche plurielle* during the 1997 French legislative elections falls within this category.
- Wikipedia reports the seats obtained by each coalition. Example: the 2018 Italian legislative elections.
- Nohlen and coauthors report that the parties were part of a coalition.
- The parties have a joint electoral platform. Example: the *Front Populaire* in the 1936 French legislative elections.
- The parties in the coalition officially and jointly announced their alliance before the election.

To detect coalitions, we proceeded in the following way:

- We first flagged elections in which Nohlen and coauthors mention a coalition or an alliance.
- We then checked the keywords used to describe these coalitions in the Wikipedia pages associated with these elections. This enabled us to define a list of relevant keywords in English, French, and Spanish:[34]
  - In English: "alliance", "allied", "ally", "coalit", "endorse", "agreement", "join forces", "combine forces", "pact", and "joint list"
  - In French: "alliance", "allié", and "coalit"
  - In Spanish: "alianza", "aliada", "aliado", and "coalici"
- Finally, using the Wikipedia pages associated with each election in English, French, and Spanish, we detected the use of these keywords within these pages to flag elections which may have featured coalitions. This last step enabled us to detect ex ante coalitions in all parliamentary elections.

When an election featuring an ex-ante coalition was detected in any of the two sources (Nohlen or Wikipedia), we manually coded this coalition using information contained in Nohlen (when such information was available) or in the Wikipedia page corresponding to the relevant election.

Independents. We did not code a running variable when only independent candidates run in an election, when political parties are banned or inexistent, or when in the previous election no party won more seats than independents, making independents the largest group in parliament. When defining the party representing the opposition and computing the running variable, we exclude independents because we consider each independent MP as a separate political group.

[34] We chose these three languages because they are the languages with the most pages related to national elections. The ten languages with the most election-related pages in Wikipedia are, in order: English, French, Spanish, German, Russian, Italian, Catalan, Polish, Norwegian, and Catalan.

A.1.4 Selection of Sources

For each election, we populated the database of results using the following procedure:

1. We identified all available data sources for each election, and determined whether each available source was "consistent" or not. By "consistent," we mean:
    - For presidential elections: that the sum of vote shares for all candidates totals 100%.
    - For parliamentary elections: that the sum of elected seats for all parties plus the number of vacant seats and the number of appointed seats is equal to the total number of seats in the parliament.
2. For each election, we first checked if a "consistent" source was available. If so, we selected the consistent source with the highest ranking in the priority order described above (Appendix A.1.2). If no consistent source was available, but some "inconsistent" sources were, we selected the inconsistent source ranked highest in the priority order.

A.1.5 Election Dates

To determine whether a turnover occurred in an election, we must sometimes find the list of leaders in power during the two years preceding an election (see Section 3.1 for details). Building this list requires data on the exact dates at which elections took place. We retrieve these dates from V-Dem, AC, IFES, Wikipedia, and Wikidata, independently from election results. If several sources were available for a given election, we used the following priority order:

$$\text{V-Dem} \succ \text{AC} \succ \text{IFES} \succ \text{Wikipedia} \succ \text{Wikidata}$$

A.2 Leaders Data

A.2.1 Identifying Leaders

To collect information on leaders, we used in priority V-Dem, which indicates the leaders in power for most countries, together with the dates of power transitions, i.e. the dates at which a new leader gains power.

We complemented these data with Wikipedia for countries absent from the V-Dem database. In rare occasions, we used Wikidata and the books by Nohlen and coauthors to complement these two sources. Data from Wikidata were retrieved through its API and data from Wikipedia were manually entered.[35]

Generally, only one source was used to describe the leaders of a country and leader type. When using data from different sources, we prioritized V-Dem whenever possible. If information was not available in V-Dem, we used data collected from Wikipedia. Finally, we used Wikidata as a complementary source and Nohlen as a last resort source. The reason we preferred Wikidata over Nohlen in this case is that the former gives us precise dates of power transitions, while Nohlen usually only provides the years in which leaders gain or lose power. In instances where we use multiple sources, we checked observations just before and after a source change, and checked the consistency between both sources. For example, if the observation for year y came from V-Dem and the observation for year $y+1$ came from Wikipedia, we checked that the last leader in power in year y corresponds to the first leader in power in year $y+1$. This check serves several purposes:

1. It ensures that both sources use the same definition of a head of state or head of government.
2. When the same person is referenced by different names (for example because of different spellings), we can detect it at this point. When such an event was detected, we changed leader names to match the name coded by V-Dem.

[35] We checked that the data retrieved from these sources were internally consistent. For example, we checked that there were no gaps or overlaps between leader tenures lasting more than 14 days. Observations from Wikidata which showed such gaps or overlaps were dropped from the dataset. Observations from Wikipedia which showed such gaps or overlaps were flagged but kept in the dataset because this source is of higher quality.

A.2.2 Leader Characteristics

We linked each leader with their Wikipedia and Wikidata pages. This process was partly automatized, but all links were manually checked. From Wikidata, we extracted the party affiliations of leaders (with the start and end dates of each affiliation when available). When data on party affiliation were missing from Wikidata and relevant for our analysis, we manually complemented our dataset using information on the leaders' Wikipedia pages.

A.3 Political Parties Data

A.3.1 Linking Election Results with Wikipedia, Wikidata, and the V-Dem Parties Database

We associated parties in our database of election results with parties in the V-Dem party database, called V-Parties (Lührmann et al., 2020; Pemstein et al., 2018), and with their Wikipedia pages. Matches were performed automatically and then checked manually (or made manually when no automatic match was possible). Specifically, we linked with V-Parties and Wikipedia all the parties ranked first or second in a national election. For presidential elections, we also linked the candidates of these parties with their Wikipedia pages.

V-Parties contains information on all parties which won a significant number of seats in nearly all parliamentary elections since 1900. It includes one observation per party $\times$ parliamentary election. From 1970 onwards, it contains expert-coded measures of populism, illiberalism, ideological positioning on the economic left-right axis,[36] as well as other party characteristics.

For presidential elections. Links with Wikipedia and V-Parties were performed separately. This is because many parties competing in presidential elections are not included in the parliamentary election results of the V-Parties database (reasons include: boycotts, parties created only for the presidential race, and parties which win too few seats in parliamentary elections to be included in the V-Parties database). Conversely, some Wikipedia pages are associated to several parties in V-Parties (for example because of changes in party names). Therefore, we followed the following methodology:

- For links with Wikipedia, we performed a manual association.
- For links with V-Parties, we associated each presidential election with the parliamentary election which took place on the same year if available in the V-Dem parties database, or with the closest parliamentary election in the past.[37] Parties of the election results database were then automatically matched with observations of the V-Parties database for this election. Fuzzy matches were checked manually.

For parliamentary elections. We started by matching parties with V-Parties. First, we performed a fuzzy match using both the seat shares obtained by different parties and party names. When the match was not perfect (or almost perfect), we made a manual check.[38]

A.3.2 Party Characteristics

We extracted three characteristics of political parties from V-Parties: their positioning on the economic left-right axis, a populism score, and an illiberalism score. V-Parties only codes these characteristics for parliamentary election years after 1970. We extended this database to all years after 1945 by interpolating between years coded by V-Parties. Furthermore, for years before (resp. after) the first (resp. last) V-Parties data point about a party,

[36] V-Parties uses the following definition for left and right: "Parties on the economic left want government to play an active role in the economy. This includes higher taxes, more regulation and government spending, and a more generous welfare state. Parties on the economic right emphasize a reduced economic role for government privatization, lower taxes, less regulation, less government spending, and a leaner welfare state."

[37] When this election is more than four years in the past, we consider it too far apart and do not perform a match.

[38] When matching a coalition, we matched the party in the coalition with the largest seat share.

we used the characteristics of the party on the first (resp. last) year it was characterized by V-Parties. Figure C.3 provides an example of this procedure.

In addition to providing a continuous left-right score, V-Parties classifies parties in seven categories from far-left to far-right on the continuous left-right score. We can use the cutoffs used by V-Parties to categorize parties in years in which they were not characterized by V-Parties.

We also label parties as populist or non-populist and illiberal or non-illiberal. In order to do so, we compared the V-Parties populism scores with the PopuList classification of European parties as populist and non-populist (Rooduijn et al., 2019). We estimated a logit model to predict the probability that PopuList will classify a party as populist with the V-Parties populism score. We used the estimated coefficients of this logit model to classify all parties of V-Parties as populist or non-populist.

Parties with a V-Parties populism score over the 65.8th percentile were classified as populist. Similarly, parties with an illiberalism score over the 65.8th percentile were classified as illiberal. These cutoffs can be seen in Figure C.3.

Figure C.4 shows for different time periods the share of elections for which we were able to match the top two parties with V-Parties, and among them the ones for which data on party characteristics were available.

A.4 Regime Data

We divided countries' history since 1945 into political regimes and documented their characteristics. These data were collected using V-Dem, with some additional information from Wikipedia. Whenever possible, we determined for each regime the power enjoyed by the head of state (HOS) and the head of government (HOG), how the HOS and HOG are elected, which leaders are designated following presidential and parliamentary elections, and whether the regime was democratic or not.

These data allow us to better understand the role of elections in each country and each time period (see also Appendix A.5). Associating each election to the regime in which it was held enables us to know which leaders were elected or appointed following the election, and how much power these leaders held.

A.4.1 Defining Regimes

We used the `v2reginfo` variable in V-Dem's country-date database, which partitions countries into regimes. For countries which are not coded by V-Dem, we manually coded regime partitions using Wikipedia. For these added regimes, we also gathered the following information: the start and end dates of the regime; leaders elected during presidential and parliamentary elections; and whether the regime was presidential, parliamentary, or mixed.

The V-Dem variables we used to determine regime characteristics are usually coded at the country-year level. For this reason, we collected regime characteristics using V-Dem's country-year database, associating each year to the regime in place on December 31 of that year. As a result, we cannot define the characteristics of regimes which are entirely contained within a given calendar year (e.g., the post-April coup transitional government in South Korea which lasted from April 26, 1960 to July 29, 1960).

A.4.2 Regime Characteristics

For our empirical exercices, we defined a set of regime-level variables to determine whether the regime's elections lead to the election or appointment of a member of the executive, and if so, if it is the HOS or the HOG (the variables `leaders_pres_elec` and `leaders_parl_elec`, defined below). To code these variables, we used a set of rules which involve auxiliary variables describing the institutions of each regime. In this section, we start by describing how these auxiliary variables are coded, and then describe the rules used to code the variables `leaders_pres_elec` and `leaders_parl_elec`.

Auxiliary variables

Presidential or parliamentary elections held. We first determined whether presidential and parliamentary elections were held in each regime. In order to do so, we associated each election to a regime using the start and end dates of our list of regimes, as well as election dates.

HOS and HOG are the same person (`hos_is_hog`). We defined a variable indicating whether the HOS is also HOG in each regime. In order to do so, we computed the regime-level mean of `v2exhoshog`, the V-Dem variable assessing for each year if the HOS and HOG are the same person. If this regime-level mean was strictly below 0.2, we considered that the HOS and HOG were two different people during the regime. If this regime-level mean was strictly over 0.8, we considered that the HOS and HOG were the same person during the regime. If the regime mean of `v2exhoshog` was between 0.2 and 0.8, we considered the situation to be indeterminate.[39] In some cases, having an indeterminate case for the `hos_is_hog` variable makes it impossible to code the variables `leaders_pres_elec` and `leaders_parl_elec` automatically. Then, we coded these variables manually (see below).

HOS/HOG is directly elected (`hos_direct/hog_direct`). The `v2ex_elechos` variable of V-Dem indicates whether the HOS is directly elected or not in each year. We defined the corresponding regime-level variable. We considered that the HOS was directly elected if the regime-level mean of `v2ex_elechos` was strictly over 0.8, and that the HOS was not directly elected if this mean was strictly below 0.2. Other cases were considered indeterminate.

Symmetrically, using the `v2ex_elechog` variable of V-Dem, we defined whether the HOG was directly elected, in cases where the HOS and HOG are different people.

HOG chosen by HOS (`hog_appointed_hos`). We assessed whether the HOG is appointed by the HOS during the regime. For this, we used the `v2ex_hosconhog` variable of V-Dem, which indicates whether the HOG was appointed by the HOS in any given year.

We considered that the HOG was appointed by the HOS if the regime-level mean of `v2ex_hosconhog` was strictly over 0.8, and that the HOG was not appointed by the HOS if this mean was strictly below 0.2. Other cases were considered indeterminate.

HOS/HOG chosen by parliament (`hos_parl/hog_parl`). For each regime, we assessed whether the HOS is appointed by the parliament or not. For this, we used the `v2ex_legconhos` variable of V-Dem, which indicates whether the HOS was appointed by the legislature in any given year.[40] If the regime-level mean of `v2ex_legconhos` was strictly over 0.8, we considered that the HOS is appointed by parliament. If this mean was strictly below 0.2, we considered that the HOS was not appointed by parliament. Other cases were considered indeterminate.

Symmetrically, using the `v2ex_legconhog` variable of V-Dem, we defined whether the HOG was appointed by parliament or not.

HOS/HOG non-democratically appointed (`hos_nondemoc/hog_nondemoc`). We determined for each regime the number of years in which the HOS was non-democratically appointed. For this we used the `v2expathhs` variable of V-Dem, which describes how the HOS arrived to power in any given year. We considered that a HOS was non-democratically appointed if they were either (i) appointed through the threat of or application of force,

[39] These cases correspond mostly to unstable or transition regimes. Examples include the Vichy regime in France: between 1940 and 1942, Phillipe Pétain was both HOS and HOG. In 1942, Pierre Laval became HOG while Pétain remained HOS.

[40] We chose to use this variable instead of the variable `v2exaphos`, which also gives information about the appointment method of the HOS ("Was approval of the legislature necessary for the appointment of the head of state?"), because `v2ex_legconhos` uses `v2exaphos` as a source (`v2ex_legconhos` aggregates information from `v2exaphos` and from `v2expathhs`). `v2ex_legconhos` is systematically available when `v2exaphos` is (at the regime level), and manual checks confirmed that `v2ex_legconhos` gave the most accurate information.

such as a coup or rebellion; (ii) appointed by a foreign power; (iii) appointed by the ruling party (in a one-party system); (iv) appointed by a royal council; (v) appointed through hereditary succession; or (vi) appointed by the military. We then considered that the HOS was non-democratically appointed in a regime if the HOS was non-democratically appointed in at least 80% of the years during a regime. We coded a symmetric variable for the HOG using the `v2expathhg` variable of V-Dem.

Power indices (`hos_power_linear`/`hog_power_linear`). To better understand the role leaders play in each regime, we created indices quantifying the amount of power the HOS and HOG enjoy. We considered that leaders hold power in different forms, following the variables from V-Dem:

- Power to dissolve the legislature (`v2exdfdshs_ord` for the HOS, and `v2exdfdshg_ord` for the HOG);
- Power to appoint ministers (`v2exdfcbhs_ord` for the HOS, and `v2exdfcbhg_ord` for the HOG);
- Power to dismiss ministers (`v2exdfdmhs_ord` for the HOS, and `v2exdfdmhg_ord` for the HOG);
- Power to veto legislation (`v2exdfvths_ord` for the HOS, and `v2exdfvthg_ord` for the HOG);
- Power to propose legislation (`v2exdfpphs_ord` for the HOS, and `v2exdfpphg_ord` for the HOG).

For each form of power, we normalized the V-Dem variable on the [0,1] segment, with 0 meaning least power and 1 most power. The means of these normalized variables give us indices reflecting the level of power of the HOS and HOG, which we call `hos_power_linear` and `hog_power_linear`, respectively.

HOS appointment method (`hos_appointment`). We defined the appointment method of the HOS in each regime as follows:

- Directly: if we found that the HOS was directly elected.
- Parliament: if we found that the HOS was not directly elected and that they were appointed by parliament.
- Non-democratically: if we found that the HOS was non-democratically appointed.

Other situations were considered indeterminate.

HOG appointment method (`hog_appointment`). We defined the appointment method of the HOG in each regime as follows:

- Directly: if we found that the HOG was directly elected.
- Parliament: if we found that the HOG was not directly elected and that they were appointed by parliament.
- Appointed by the HOS: if we found that the HOG was not directly elected, not appointed by parliament, and that they were appointed by the HOS.
- Irrelevant: if we found that the HOS and HOG are the same person.
- Non-democratically: if we found that the HOG was non-democratically appointed.

Other situations were considered indeterminate.

Main variables

With these auxiliary variables, we could find which leader was appointed following every election (if any leader was appointed at all). When two leaders were chosen following an election, we only kept the leader which had most power according to our leader power index. We now clarify this rule for presidential and parliamentary elections separately.

Main leader appointed following a presidential election (`leaders_pres_elec`). If presidential elections took place during the regime, we considered that the HOS was elected during these elections, unless one of the two following conditions held:

a) The HOG was directly elected and the HOS was not.

b) Both the HOS and HOG were elected directly, but the HOG had more power than the HOS.[41]

In these cases, we considered that the HOG was elected during presidential elections.

Main leader appointed following a parliamentary election (`leaders_parl_elec`). If parliamentary elections took place during the regime, we defined the leader appointed during these elections as:

- The HOS in any of the following cases:
  - The HOS was appointed by parliament and the HOG was not.
  - The HOS and the HOG were both appointed by parliament, and the HOS had more power than the HOG.
  - The HOS was appointed by parliament, the HOG was appointed by the HOS, and the HOS had more power than the HOG.
- The HOG in any of the following cases:
  - The HOG was appointed by parliament and the HOS was not.
  - The HOS and the HOG were both appointed by parliament, and the HOG had more power than the HOS.
  - The HOS was appointed by parliament, the HOG was appointed by the HOS, and the HOG had more power than the HOS.
- No leader if we know how the HOS and HOG were appointed, and we know they were not appointed by parliament.

When this rule did not allow us to determine the leader appointed during parliamentary elections (if any), we followed the same procedure as for presidential elections, i.e., we used Wikipedia to manually define the `leaders_parl_elec` variable.

A.5 Determining the Role of Elections

To study the impact of elections leading to a turnover in the executive branch, we must understand the role of each election:

- For each presidential election, we determined whether the election led to the designation of the HOS or the HOG.
- For each parliamentary election, we determined whether the election led to the designation of the HOS, the HOG, or none of the two.

We associated each election with a variable indicating which leader of the executive was nominated following the election: `elected_leader`. This variable was mainly constructed using V-Dem. We used two methods to construct this variable: a baseline method and another method for robustness checks. The baseline method uses the value of V-Dem variables on the year of the election, and the method used for robustness checks uses the characteristics of the regime during which the election took place. We used the value given by the baseline method in priority because manual checks showed it was more accurate. We defined manually cases in which the baseline method did not allow us to determine the role of the election or in which the two methods disagreed. Finally, we checked cases where the constructed variable displayed surprising patterns.

[41] We consider that the HOG has more power than the HOS if `hog_power_linear` > `hos_power_linear` + 0.1.

Baseline method. In the baseline method, we defined the role of presidential and parliamentary elections in each country-year based on the country-year version of V-Dem. We used the following variables of V-Dem:

- `v2expathhs` (resp. `v2expathgh`): how did the HOS (resp. HOG) reach office?
- `v2ex_hosw`: does the HOS have more relative power than the HOG over the appointment and dismissal of cabinet ministers?
- `v2exhoshog`: is the HOS also HOG?
- `v2ex_elechos` (resp. `v2ex_elechog`): is the HOS (resp. HOG) directly elected?
- `v2ex_legconhos` (resp. `v2ex_legconhog`): is the HOS (resp. HOG) appointed by the legislature, or is the approval of the legislature necessary for the appointment of the HOS (resp. HOG)?
- `v2ex_hosconhog`: is the HOG appointed by the HOS?

We then went through the following steps.

1. First, we coded that the HOS was appointed in a given country-year:
    - Directly, if `v2ex_elechos` said so.
    - By parliament, if `v2ex_elechos` indicated that the HOS was not directly elected and `v2ex_legconhos` indicated that the HOS was appointed by the legislature.
    - Non-democratically, if `v2expathhs` indicated that the HOS reached power by a coup or other application of force, by appointment by a foreign power, by the ruling party in a one-party system, by a royal council, through hereditary succession, or by the military.
2. If the HOS is not the HOG, we determined that the HOG was appointed:
    - Directly, if `v2ex_elechog` said so.
    - By parliament, if `v2ex_elechog` indicated that the HOG was not directly elected and `v2ex_legconhog` indicated that the HOG was appointed by the legislature.
    - By the HOS, if `v2ex_elechog` indicated that the HOG was not directly elected, `v2ex_legconhog` indicated that the HOG was not appointed by the legislature, and `v2ex_hosconhog` indicated that the HOG was appointed by the HOS.
    - Non-democratically, if `v2expathgh` indicated that the HOS reached power by a coup or other application of force, by appointment by a foreign power, by the ruling party in a one-party system, by a royal council, through hereditary succession, or by the military.
3. We then determined that the leader nominated following presidential elections was the HOS unless one of the two following conditions held:
    a) The HOG was directly elected and the HOS was not.
    b) Both the HOS and HOG were directly elected, and the HOG had more power according to `v2ex_hosw`.

    In these cases, we consider that the HOG was nominated during presidential elections.
4. We then determined that the leader nominated following parliamentary elections is:
    - The HOS if:
        a) The HOS was appointed by parliament and the HOG was not.
        b) The HOS was appointed by parliament, and the HOS had more power according to `v2ex_hosw`.
    - The HOG if:
        a) The HOG was appointed by parliament and the HOS was not.
        b) The HOG was appointed by parliament, and the HOG had more power according to `v2ex_hosw`.

c) The HOS was appointed by parliament, the HOG was appointed by the HOS, and the HOG had more power according to `v2ex_hosw`.

- No leader if the HOS and HOG were not appointed by parliament, and we know how they were appointed.

Sometimes, this set of rules did not allow us to determine the role of the election (for instance when the V-Dem variables do not allow us to understand how the HOS or HOG are appointed). In such cases, we defined it manually using information available on Wikipedia.

Alternative method. The disadvantage of the baseline method is that each election's role is determined based on the unique observation of V-Dem corresponding to that year. The method may therefore be affected by noise in the V-Dem variables, and we identified several instances in which it failed to correctly identify the role of specific elections. For instance, in the United States in 1974, V-Dem indicates that the HOS is also HOG, and that the current HOS was nominated by parliament. The baseline method leads to the conclusion that the U.S. parliamentary election led to the nomination of the HOS, while in reality it did not lead to the nomination of any leader of the executive. Note that this mistake is not due to a coding error in V-Dem: the HOS in power on December 31, 1974 in the U.S. was Gerald Ford, who had been confirmed as President by Congress as part of the procedure outlined by the 25th amendment following Nixon's resignation. Our alternative method helps us avoiding this type of issues.

We first linked elections to the regimes defined in V-Dem. For instance, the 1974 U.S. election falls within the current U.S. regime, defined by V-Dem as Post-Civil Rights Act (03/07/1964 - E).[42]

We then determined the role of each election using the values in the regime database of the `leaders_pres_elec` and `leaders_parl_elec` variables for the regime in which the election took place. For instance, in the U.S. "Post-Civil Rights Act (03/07/1964 - E)" regime, presidential elections are associated with the nomination of the HOS and parliamentary elections are associated with the election of no leader. Aggregating data over the entire regime "absorbs" the noise of the Ford years.

Robustness checks. We determined which leader of the executive was nominated following every election, using both the baseline and the alternative method. We only kept the result provided by the baseline method, except in cases where the two methods disagreed (as for the 1974 U.S. parliamentary election). In these cases, as well as in cases where the baseline method did not enable us to define the role of the election, we defined it manually.

We also systematically checked irregular patterns of the `elected_leader` variable created for each election. When the value of this variable changed two years in a row, we performed a manual check. For instance, if presidential elections A, B, and C followed each other, and our method found that the role of election B differed both from the role of election A and from the role of election C, we checked that our characterization of election B was correct. Finally, we manually checked the `elected_leader` variable for elections taking place near years in which the leader appointed following an election changed according to the baseline method.[43]

A.6 Term Limits

In our exploration of mechanisms, we distinguish presidential candidates who would face a binding term limit, should they be elected, from those who would be able to run for reelection at the end of their term. To know which term limit laws prevail, we extracted data from the Comparative Constitutions Project (CCP) (Elkins et al.,

[42] For 97% of the elections in our sampling frame, we know the exact date at which the election took place and can precisely associate it with a regime. For the remaining 3% of elections, we either know the year and month in which the election took place, or only the year. We associate these elections with a regime only if there is no ambiguity regarding the regime they took place in.

[43] For instance, suppose that in a given country, parliamentary elections lead to the appointment of the HOS in 2005 and to the appointment of the HOG in 2006 according to the baseline method. We would then check values of `elected_leader` for parliamentary elections taking place in 2005 or 2006 in that country.

2021). Examples of rules mentioned in the CCP are "only one term permitted, total" and "no successive terms permitted, but multiple non-successive terms permitted."

We restrict this analysis to candidates ranked first or second in a presidential election, and candidates representing the incumbency.

To identify candidates facing a term limit, we proceed as follows:

- **Step 1**: We counted the number of presidential terms completed by leaders by looking at the list of leaders in power during the two years following past presidential elections.[44] If a single leader was in power during at least 365 days during this period, we considered that they have completed a term. We associated all leaders who have been in office with their unique Wikidata identifier.
- **Step 2**: Using the list of presidential election winners, and the association of presidential election candidates with their unique Wikidata identifiers, we computed for each presidential election candidate and each election:

  a) The total number of presidential terms the candidate has already completed at the time of the election.
  b) The number of consecutive terms the candidate has finished prior to the current election.

- **Step 3**: We merged this information with the term limit laws in place at the moment of each election (imported from CCP). Using the classification of the CCP and the comments added by CCP, we found whether each candidate would face a binding term limit if they won the election.[45]

With this method, we are able to assess whether a candidate faces a binding term limit or not for about half of our presidential election $\times$ candidate observations. In 65% of elections for which data on term limits are available, at least one candidate is facing a term limit. For 8% of the elections for which data on term limits are available, a candidate exceeds the term limit set by the constitution. In most cases, this seems to be because term limits laws are interpreted as not retroactive, and only terms which started within the current constitution are counted (examples include the 2006 Venezuelan presidential election, the Kazakh 2005 presidential election, and the Montenegrin 2013 election).

A.7 Outcome Data

Outcome selection rules. For each category of outcomes, we retrieved a set of variables from widely-used sources. Estimates for the full list of outcomes we considered can be found in Appendix Tables E.15 to E.19. We focus our analysis on a subsample of these variables, which were selected using the following rules:

1. We preferred variables which have a large coverage;
2. We preferred variables which are measured directly to transformations of these variables. For example, we prefer to use the volume of international trade than the year-to-year change in the volume of international trade, as measurement errors are plausibly larger in the latter.

We prioritized the following data sources for our main outcomes of interest:

- **GDP growth:** we use the Penn World Tables (Feenstra et al., 2015) which cover 179 countries across 65 years (1950-2014). Specifically, we measure GDP using the $RGDP^{NA}$ variable, corresponding to real GDP at constant national prices, obtained from national accounts data for each country. Feenstra et al. (2015) recommend using this measure of GDP for growth regressions. As alternative sources, we considered the Maddison Project (Bolt et al., 2018) and the World Bank's World Development Indicators (WDI). The Maddison Project has a smaller spatial coverage (165 countries covered) and the World Bank WDI have a smaller time coverage (starting in 1960 only). Appendix Table E.15 reports estimates obtained using these alternative sources.

[44] In this step, we used our classification of presidential elections as elections of the HOS or elections of the HOG. If we could not clearly find the role of a presidential election, here we considered by default that it led to the election of the HOS.

[45] If the law does not specify whether there is a term limit or not, we consider that the candidate does not face a term limit.

- **Inflation:** we use CPI inflation from the IMF. As an alternative, we considered the annual growth rate of the GDP implicit deflator provided by the World Bank and built using data from the World Bank's national accounts data and the OECD National Accounts data. Appendix Table E.15 reports estimates obtained using this alternative variable.
- **Unemployment:** we use the unemployment rate estimate from the International Labor Organization (ILO). As an alternative source, we use estimates from the OECD. Data from the OECD have a larger time coverage (1955-2020 instead of 1991-2020 for the ILO database) but a much lower spatial coverage (38 countries, compared with 181 countries for the ILO database). Appendix Table E.15 reports estimates obtained using this alternative source.
- **Trade:** we construct a measure of trade intensity using the total value of imports and exports divided by GDP, measured by the World Bank. Appendix Table E.16 reports estimates obtained using an alternative source, the CEPII. We also explore alternative indicators such as exchange rate appreciation (from the IMF and the OECD) and tariffs and taxes on trade (from the World Bank).
- **Human development:** we use the Human Development Index (HDI) from the United Nations Development Programme (UNDP), the most standard and authoritative indicator of human development. The HDI is the geometric mean of three components: an index of income calculated using GNI per capita, an index of life expectancy at birth, and an index of expected years of schooling. The measure was originally proposed by Pakistani economist Mahbub ul Haq in 1990 based on the work of Amartya Sen. Other data sources such as the UNICEF and the World Bank do not provide a synthetic measure of human development. However, in Appendix Table E.17 we explore alternative indicators such as the infant mortality rate from UNICEF and measures of malnutrition and inequality provided by the World Bank.
- **Conflict:** we measure the incidence of conflict using the Correlates of War (COW) Project (Sarkees and Wayman, 2010; Palmer et al., 2015). Our conflict outcome is a dummy equal to 1 if the country experienced any inter-, intra-, or extra-state conflict in a given year, and 0 otherwise. This source has been widely used in the social science literature on conflict. In Appendix Table E.18, we also explore a measure of the incidence of coups from Powell and Thyne (2011) as well as conflict measures from PRIO (Gleditsch et al., 2002).
- **Democracy:** we rely on V-Dem's various mesures of the quality of democracy, including deliberative, egalitarian, liberal, participatory, and electoral democracy. We use the simple average of these five measures (which all vary between 0 and 1) to quantify the quality of democracy. Appendix Table E.19 reports estimates obtained using alternative sources such as the Polity IV project and Freedom House.

A.8 Inputs to Define Electoral Turnovers and Turnovers in the Executive Branch

A.8.1 The Executive Before and After Elections

As outlined in the paper, we defined for each election which leads to the designation of a member of the executive:

- A leader before the election;
- A leading party before the election;
- A leader after the election;
- A leading party after the election.

In presidential elections, the leader and leading party before the election (used in the specification estimating the effects of executive turnovers) are identical to the incumbent leader and incumbent party (used when estimating the effects of electoral turnovers). By contrast, in parliamentary elections, we do not define an incumbent leader, and the leading party before the election may differ from the incumbent party, defined as the party which secured a plurality of seats in the previous parliamentary election (see Section 3.1).

Leader before the election. Let E an election following which a member of the executive is designated (a presidential election, or a parliamentary election which leads to the designation of a member of the executive, typically the prime minister).

Let ℓ the leader designated following election E, with $\ell \in \{\text{HOS}, \text{HOG}\}$. Usually, $\ell = \text{HOS}$ for presidential elections and $\ell = \text{HOG}$ for parliamentary elections.

Let y_E be the year in which election E took place, y_{E-1} the year immediately preceding it, and y_{E+1} the year immediately following it. Furthermore, let:

- t_E be the date of the election E. t_{E+n} corresponds to n days after the election, and t_{E-n} corresponds to n days before the election.
- $L_{t_1,t_2,\ell}$ be the list of leaders that were in power at position ℓ between dates t_1 and t_2.
- $L_{y,\ell}$ be the list of leaders that were in power at position ℓ during year y.

We defined as leader before the election a leader who held power for at least 365 days in the two-year period before the election. We identified leaders before the election using the database of election dates and the leader database which documents leadership transitions, with the following steps:

- **Step 1**: When we knew the precise date at which election E took place and the dates at which the leaders of type ℓ took power in country c for years y_E, y_{E-1}, and y_{E-2}, we defined $L_{t_E-731,t_E-1,\ell}$, the list of leaders in power during the two years preceding the election. If one leader in this list had been in power for 365 days or more during this 730-day period, we defined them as the leader before the election.
- **Step 2**: If we did not know the precise date at which the election took place or if we did not know the precise dates at which leaders took power in the country, we could not define $L_{t_E-731,t_E-1,\ell}$, and we could not know whether the leaders in $L_{y_E,\ell}$ were in power before or after the election. In such cases, we looked at the year y_{E-1} to find a leader before the election. If $L_{y_E-1,\ell}$ is a singleton, we defined its single element as the leader before the election.
- **Step 3**: If we did not have data on the leaders in $L_{y_E-1,\ell}$ or if $L_{y_E-1,\ell}$ is not a singleton, we checked in Wikipedia or in other available sources whether a leader matches our definition of leader before the election.

Leading party before the election. Keeping the same notations as in the definition of the leader before the election, we defined:

- $P_{t_1,t_2,\ell}$, the list of the parties that leaders in $L_{t_1,t_2,\ell}$ belonged to between t_1 and t_2.[46]
- $P_{y,\ell}$, the list of the parties that leaders in $L_{y,\ell}$ belonged to during year y.

We defined as leading party before the election a party which held power for 365 days or more during the two years preceding the election, using the following steps:

- **Step 1**: If we could identify a leader before the election, their party was considered the leading party before the election. If they had several partisan affiliations at the time of the election, all of the parties with which they were affiliated at the time of the election were considered leading parties before the election.[47] Otherwise, we continued to step 2.

[46] To build this list of parties, we use as input two databases, both extracted from Wikidata and described above: (i) the database of leader characteristics which associates each leader with one or several parties, and, if available, dates of start and end of party membership, and (ii) the database of political party characteristics, including their creation and dissolution dates. To find the parties to which a leader is affiliated between t_1 and t_2, we list the parties associated with the leader in the leader characteristics database, remove parties in which the leader was not active between t_1 and t_2 using start and end dates of party memberships (when available), and remove parties which did not exist at all between t_1 and t_2 (using the database of party characteristics).

[47] When we determined whether there was a turnover in the executive branch or not and there were several leading parties before or after the election, we consider there was no turnover when the intersection between the lists of leading parties before and after the election was non-empty.

- **Step 2**: When we knew the precise date at which election E took place and the dates at which the leaders of type ℓ took power in country c and for years y_E, $y_E - 1$, and $y_E - 2$, we defined $P_{t_E-731,t_E-1,\ell}$, the list of parties in power during the two years preceding the elections. If one party in this list had been in power for 365 days or more during this 730-day period, we defined it as the leading party before the election.[48]
- **Step 3**: If we did not know the precise date at which the election took place or if we did not know the precise dates at which leaders took power in the country, we could not define $P_{t_E-731,t_E-1,\ell}$, and we could not know whether the parties in $P_{y_E,\ell}$ were in power before or after the election. In such cases, we looked at the year $y_E - 1$ to find a leading party before the election. If $P_{y_E-1,\ell}$ is a singleton, we defined its single element as the leading party before the election.
- **Step 4**: If the previous steps did not lead to the designation of a leading party before the election, this may be due to several factors:

    a) Too much political instability: multiple parties were in power during the two years preceding the election, and none of them held power for more than 365 days. In such a case, we could not define a leading party before the election.
    b) Missing data in the leader characteristics database. In this case, we used information from Wikipedia and WhoGov to manually code a leading party before the election.

When a leading party before the election could not be defined through steps 1-3 and we could also not find a leader before the election, we searched in available sources for complementary information. If a political party corresponded to our general definition of leading party before the election, we defined it manually as such. We further checked observations where the leading party before the election was dissolved the year of the election. In cases where this dissolution corresponded to a change in the name of the party, we coded this change to make sure the party could be linked with parties competing in the election and with the party in power after the election.

Leader after the election. The rules used to define the leader after the election are symmetric to the rules used to define the leader before the election.

Leading party after the election. The rules used to define the leading party after the election are symmetric to the rules used to define the leading party before the election.

A.8.2 Determining the Representative of the Incumbency

The matching process to determine the representative of the incumbency begins after an incumbent leader (in presidential elections) and incumbent party (in both presidential and parliamentary elections) were defined. We matched these incumbent leaders and parties to the candidates and parties listed in the election results database using the `fuzzywussy` Python library.[49] We checked manually the matches that were fuzzy, corrected matching

[48] In some cases, leaders are affiliated to several parties. This rule allows us to manage such cases. For instance, suppose that during the 730 days before the election, leaders 1, 2, and 3 were in power each for the same time period. Leader 1 is affiliated with parties A and B, while leader 2 is affiliated with party B only, and leader 3 is affiliated to C. The leading party before the election will then be defined as party B. As a second example, if leader 1 was affiliated with parties A, B, and C while leaders 2 and 3 were affiliated only with B and C, we define both B and C as leading parties before the election. If several parties in $P_{t_E-731,t_E-1,\ell}$ were in power for 365 days or more during the two years before the election, we only consider as leading parties before the election the parties in that list that were in power for the longest period. For instance, if parties A and B appear in $P_{t_E-731,t_E-1,\ell}$ for 400 days, and party C for 380 days, then only parties A and B will be considered leading parties before the election.

[49] We imposed a restriction of the Levenshtein distance between the two matched strings to consider that they corresponded to the same candidate or party. Precisely, we imposed that the `WRatio` of the `fuzzywuzzy` Python library be over 90. If several parties had a `WRatio` of over 99, we did not perform an automatic match as there was an ambiguity.

errors manually, and made some manual matches when no automatic match could be performed.[50] In some cases, we could not define a representative of the incumbency and running variable. In these cases, we provided a justification for the missing running variable.
At this stage, all elections fall in one of the three following cases:

- A representative of the incumbency has been defined automatically through the matching process, and this automatic match has been checked if fuzzy.
- A representative of the incumbency could not be defined automatically, but was coded manually.
- A representative of the incumbency cannot be coded because the election falls in a special case, which has been documented on a case-by-case basis.

A.8.3 Determining the Representative of the Leading Party Before the Election

We use a similar process to match the leading party before the election with parties listed in the election results database, in the subset of parliamentary elections which lead to the designation of a member of the executive. In presidential elections, the leader and leading party before the election are also the incumbent and incumbent party, so the match with election results is identical to the match described above.

A.8.4 Additional checks

The variables described above are key inputs in the computation of the running variables X (which determines the treatment T, indicating an electoral turnover) and X^x, as well as the treatment T^x (indicating a turnover in the executive branch). To check their validity, we asked research assistants who had not participated in the initial coding of these variables to code them by hand for a subset of elections, using Wikipedia and other online sources. They did this work for all elections with a running variable X between -15 and +15 percentage points (which approximately corresponds to the bandwidth optimally chosen by rdrobust for of our RDD regressions), as well as a smaller random sample of elections for which X was above +15 or below -15 percentage points. In total, this audit sample included 1,053 elections (374 presidential elections and 679 parliamentary elections). We checked all cases where this complementary coding of the running and treatment variables differed substantially from our original coding.[51] This allowed us to detect 38 elections (2 presidential elections and 36 parliamentary elections, accounting for 3.6% of the sample of interest) for which there was an error in the original coding of X, X^x, or T^x. Overall, these additional checks bolster our confidence in the accuracy of the original coding of these key variables.

A.9 Party leaders

In parliamentary regimes, political parties often nominate leaders to represent them in the parliamentary elections, with the expectation that they would become the leader of the executive branch in the event of a victory. For instance, in the 1994 German Bundestag election, the CDU/CSU was represented by Helmut Kohl, and the SPD by Rudolf Scharping. Using Wikipedia and other sources, we identified the party leaders for the top two parties as well as the incumbent party (if it was not among the top two parties) in each election. We restricted this exercise to parliamentary elections which led to the designation of a leader of the executive branch and which took place in parliamentary regimes. Indeed, in presidential regimes, party leaders during parliamentary elections are not always expected to become a leader of the executive in the event of a victory.

We linked party leaders with their Wikipedia pages and Wikidata IDs. Since we also link all leaders of the executive branch with their Wikidata IDs, we can assess whether the leader of the incumbent party during

[50] When there were several leading parties before the election and several of these parties were competing in the election, we conducted some background research to determine which of these parties was supported by the incumbent leader and define it as the representative of the incumbency.

[51] Specifically, we checked cases where the manually coded variables differed from the original variables by more than a percentage point, or when they were of opposite signs.

an election is also the incumbent leader. Similarly, we link all candidates in presidential elections with their Wikipedia pages and Wikidata IDs. Using these data, we can assess whether the candidate of the incumbency was the incumbent leader themself vs. someone else for a large subset of elections. In Appendix Table F.2, we test whether the effects of electoral turnovers differ in these two cases.

B Empirical Strategy

B.1 Elections Included in Regressions

In our analysis, we include all presidential and parliamentary elections held since 1945, excluding the following cases:

- Elections already excluded from the election results database (by-elections only concerning a very small number of seats, elections for constitutional assemblies which do not have any legislative power except in drafting a new constitution, and elections for the upper chamber in multi-cameral parliaments).
- Elections with only one candidate (including plebiscites) or one party.
- Elections which are not the last of their type during the calendar year.
- Presidential elections considered inconsequential because they were cancelled (e.g., Bolivia 1978), because the elected president died shortly after the election (e.g., Iran 1981), or because they were shortly followed by a coup (e.g., Panama 1968).
- Some indirect presidential elections (see Appendix B.2 below).
- Parliamentary elections considered inconsequential because they were cancelled, or shortly followed by a coup or a dissolution of the elected assembly.
- Parliamentary elections where some members were appointed. We drop these elections for two reasons. First, there is a major concern of manipulation of the running variable in this case, since incumbent leaders and parties can use appointed seats to secure a majority of seats. Second, the available data on seat shares do not always allow us to distinguish between elected seats and appointed seats, which then makes it impossible to compute seat shares using only elected seats as the denominator.

B.2 Indirect Presidential Elections

In some polities, the president is indirectly elected, usually by parliament or by an electoral college. Including indirect elections indiscriminately in the sample would threaten the validity of the RDD as parties can often make alliances before such elections and precisely manipulate the votes each candidate receives.

Identification of indirect elections. Indirect elections were identified:

- Manually, during data entry.
- Automatically, when the election results mentioned the presence of an electoral college (i.e., the data we collected included information on electoral college votes).
- Automatically, when IFES labelled the election as indirect. V-Dem also has a variable coding indirect elections (`e_presdirect`). However, it is not comprehensively coded and we detected some coding errors. We nonetheless used this variable for checks: in the few instances where V-Dem codes an election as indirect and we code it as direct, we systematically checked that our coding was correct. Furthermore, many indirect elections are not included in V-Dem, so that an election missing from V-Dem can be an indicator that the election was indirect. We systematically checked whether the elections present in our dataset but not in V-Dem were indirect or not.

Inclusion rule. We only included indirect presidential elections in our sample when the president was chosen by an electoral college elected by the people for the sole purpose of electing the president. These elections are comprehensively documented by V-Dem. We also imposed that the electoral rule made precise manipulation very difficult, i.e.:

- We excluded indirect elections satisfying the criterion above but where several rounds could take place, as the existence of multiple rounds can enable parties to build alliances between rounds and manipulate the final result (e.g., Granzier et al. (2019)).
- We excluded indirect elections where electors were unpledged and where the electoral college counted fewer than 1,000 electors. Note that this does not apply to the U.S. Electoral College, where the 538 electors are pledged (see below).

We obtained information about the electoral rule in each indirect presidential election from Nohlen, Wikipedia, and countries' constitutions.

Comments on the rule. The first part of the rule (the electoral college must be elected by the people and have the sole purpose of electing the president) serves two purposes:

1. It rules out elections where manipulation is easy (e.g., when the president is elected by parliament).
2. It ensures that our sampling frame is comprehensive: V-Dem comprehensively documents direct presidential elections, and indirect elections where the "electoral college [is] elected by the people and has the sole purpose of electing an executive".

The second part of the rule (namely, the two additional types of indirect elections which we exclude) excludes further cases where manipulation could be made easier.

We note that this rule leads us to exclude some indirect elections where manipulation is unlikely. For example, in the 1958 French election, the president was elected by 79,470 voters including MPs, mayors and local officials. Since members of the electoral college were not elected for the sole purpose of electing the president, this election is excluded from our sample, although the large number of electors made manipulation unlikely. Likewise, in India, the president is elected by MPs (from both houses of parliament) and members of state legislative assemblies, for a total of over 4,000 electors. The votes of these representatives are weighted differently depending on the region they are representing, making manipulation difficult. However, these cases only represent a small number of elections, and the lack of documentation of these indirect elections by V-Dem makes it difficult to compile a comprehensive list. The rule above allows us to avoid exclusion errors pertaining to this type of indirect elections.

Examples.

- **Examples of elections not included in the sample**:
  - Argentina (elections of 1946, 1958, 1963, 1983, and 1989): in these elections, an electoral college including two electors per congressman was formed to nominate a president and vice-president. To get elected, candidates had to obtain a majority of the votes from the electoral college. Otherwise, the president and vice-president would be elected by the Congress. Manipulation seemed to be possible, especially in more competitive elections. During the 1916 election, "Numerous Democratic Progressives [...] became faithless electors - pledging their support to the Conservative Party."[52] In the 1928 election, "Roca's Unified Front, which lost in their home province of Córdoba, had endorsed the Antipersonalist UCR Melo-Gallo ticket, and pledged their 20 electors to the latter in a symbolic alliance. Minor and provincial parties, for their part, opted instead to abstain from casting most of their combined 84 electoral votes."[53]

[52] Wikipedia, 1916 Argentine general election (https://en.wikipedia.org/wiki/1916_Argentine_general_election), accessed on December 31, 2021.
[53] Wikipedia, 1928 Argentine general election (https://en.wikipedia.org/wiki/1928_Argentine_general_election), accessed on December 31, 2021.

- Finland (elections of 1946, 1950, 1956, 1962, 1968, 1978, 1982, and 1988): several rounds could take place in the electoral college, making manipulation possible.

- **Examples of elections included in the sample**:

  - U.S. (all elections since 1945): most states bind their electors to a strict rule. There have been rare instances of "faithless electors" throughout history. However, "such 'faithless electors' have never decided a Presidency. There has been one faithless elector in each of the following elections: 1948, 1956, 1960, 1968, 1972, 1976, and 1988. A blank ballot was cast in 2000. In 2016, seven electors broke with their state on the presidential ballot."[54]
  - Colombia (elections of 1892 and 1898): in these elections, the electoral college elected the president in a single round and counted more than 2000 electors, making manipulation difficult.

B.3 Effects of Turnovers in the Executive Branch.

The RD equation we use to estimate the effect of an executive turnover is as follows:

$$\Delta Y_E = \alpha + \beta_1 X_E^x + \beta_2 X_E^x T_E^x + \gamma T_E^x + \varepsilon_E, \tag{4}$$

where X_E^x, the running variable, is the victory margin of the best ranked competitor over the party of the executive leader. The treatment variable T_E^x is equal to 1 if the country experienced a turnover in the executive branch. T_E^x is instrumented by A_E^x in the following first stage equation:

$$T_E^x = \tilde{\alpha} + \tilde{\beta}_1 X_E^x + \tilde{\beta}_2 X_E^x A_E^x + \tilde{\gamma} A_E^x + \tilde{\varepsilon}_E, \tag{5}$$

where $A_E^x = \mathbb{1}(X_E^x > 0)$. Our main tables report point estimates corresponding to γ.

For the sake of completeness, we also report γ^r from the following reduced-form equation:

$$\Delta Y_E = \alpha^r + \beta_1^r X_E^x + \beta_2^r X_E^x A_E^x + \gamma^r A_E^x + \varepsilon_E. \tag{6}$$

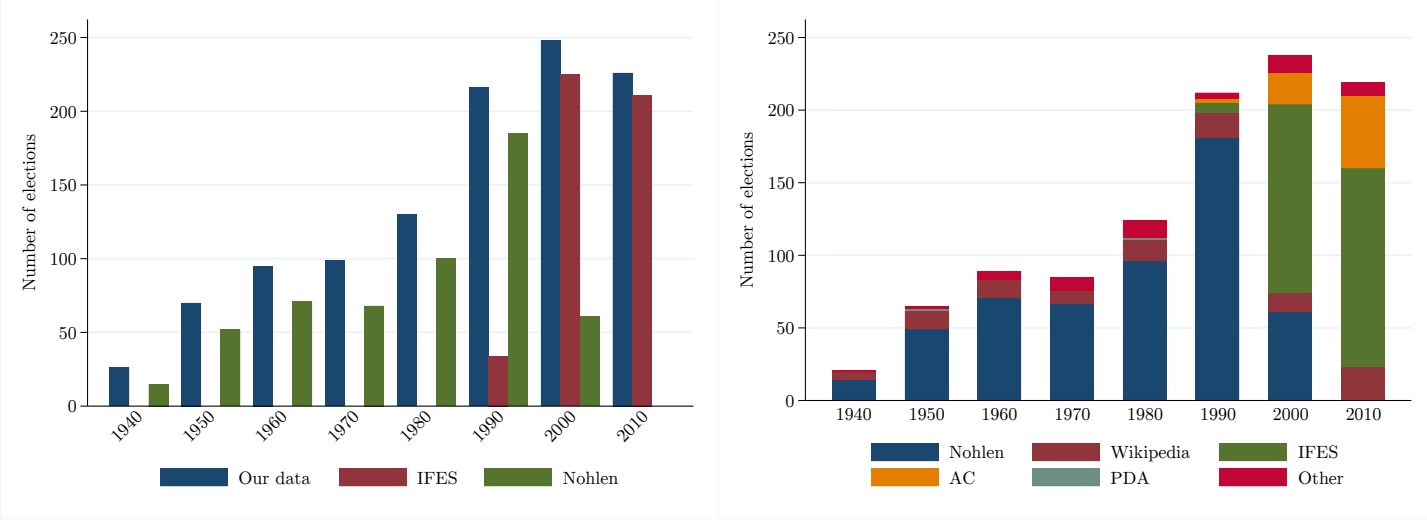
Differences between γ in equation (1) and γ^r in equation (6) are due both to differences in specification and to differences in sample size and composition.

[54] U.S. House of Representatives, https://history.house.gov/Institution/Electoral-College/Electoral-College/, accessed on December 31, 2021.

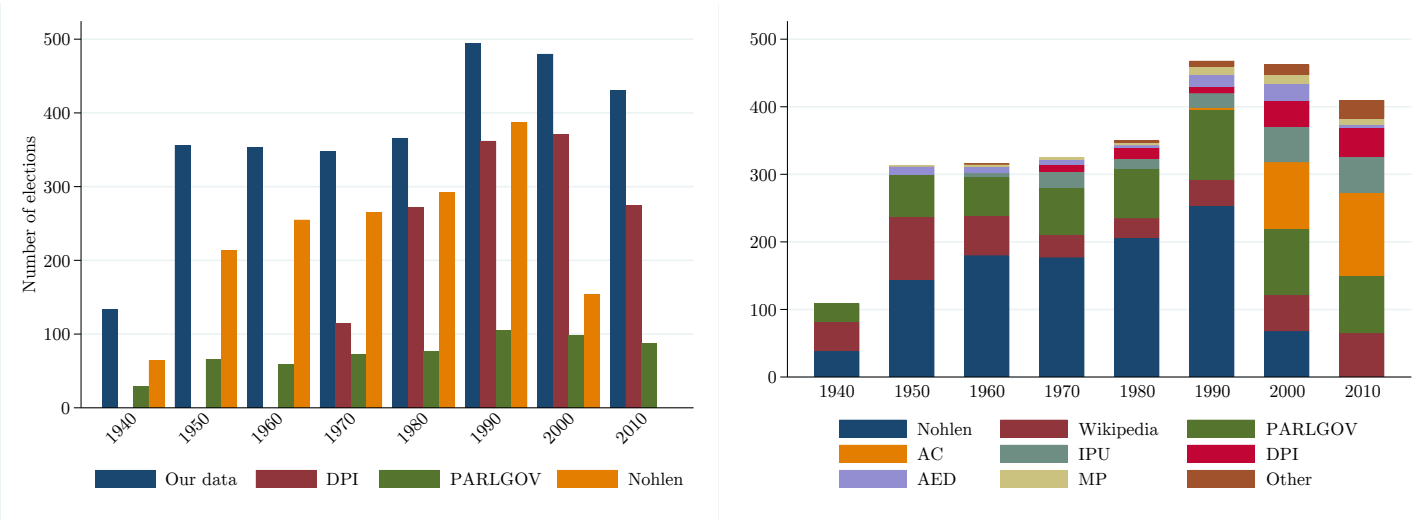
C Descriptive Statistics

Figure C.1: Electoral data availability and sources used

(a) Presidential elections

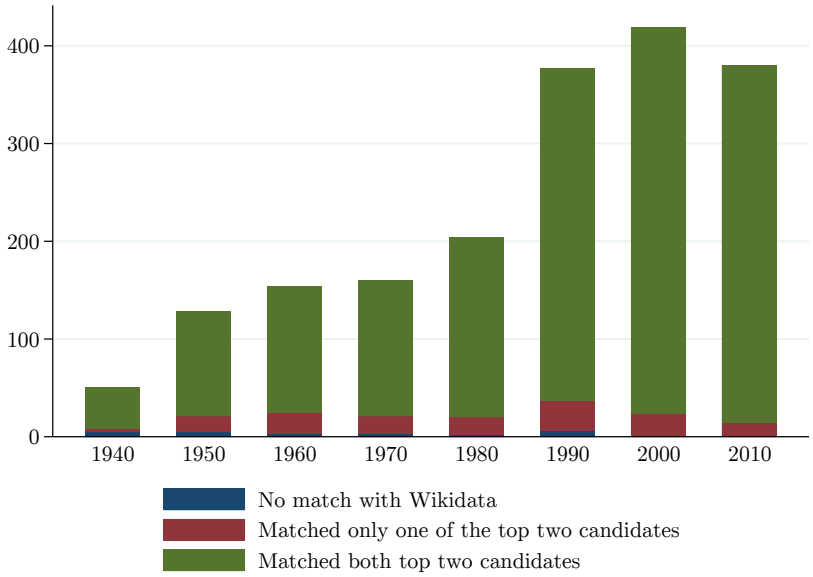


(b) Parliamentary elections



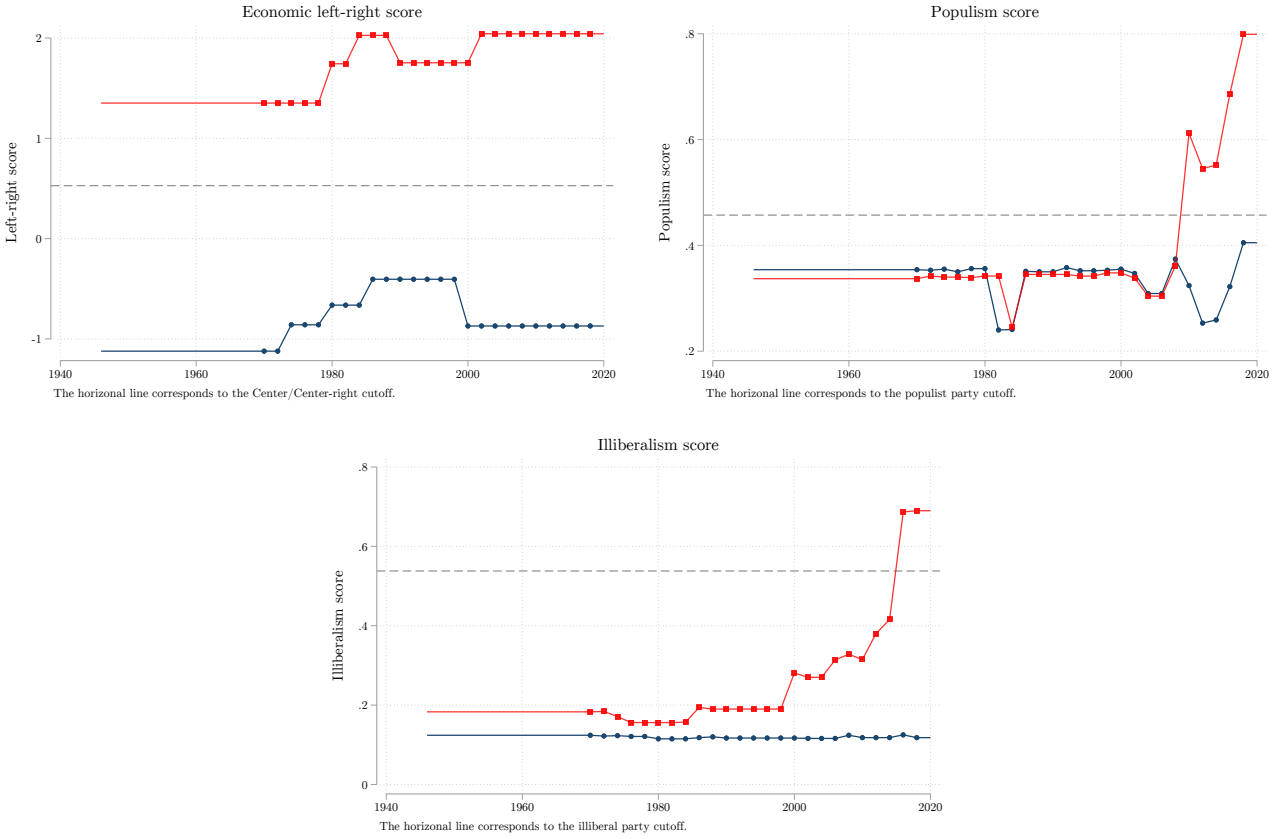
Notes: The left panels of this figure plot for each decade the number of elections in our database compared to the number of elections in other available databases. The right panels show for each decade the number of elections for which we retrieved data on election results from each source.

Figure C.2: Matching candidates with Wikidata



Notes: This figure shows matching rates of top two candidates with V-Dem. For presidential elections, the top two candidates are the top two candidates in the election. For parliamentary elections, we restrict the sample to elections taking place in a parliamentary regime and leading to the designation of a member of the executive, and the top two candidates are the candidates of the top two parties in the election.

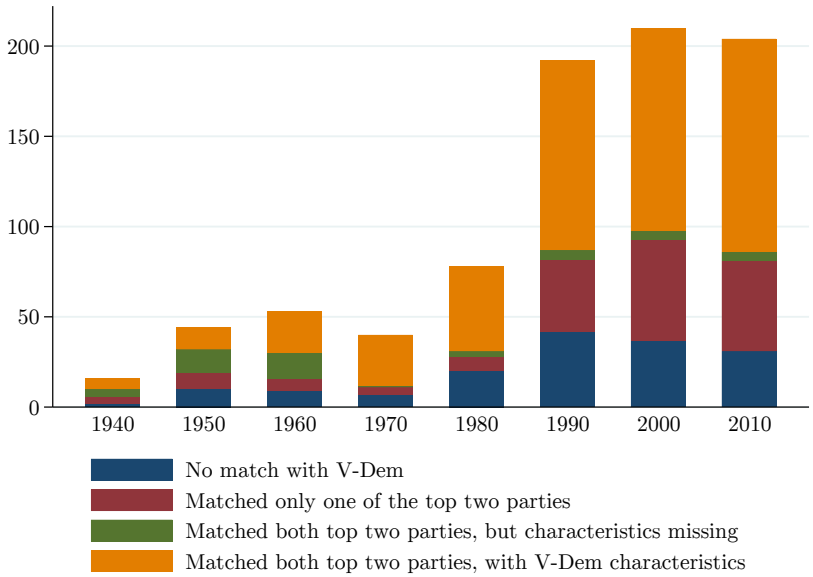
Figure C.3: V-Dem party characteristics: Democratic (blue) and Republican (red) parties in the U.S.



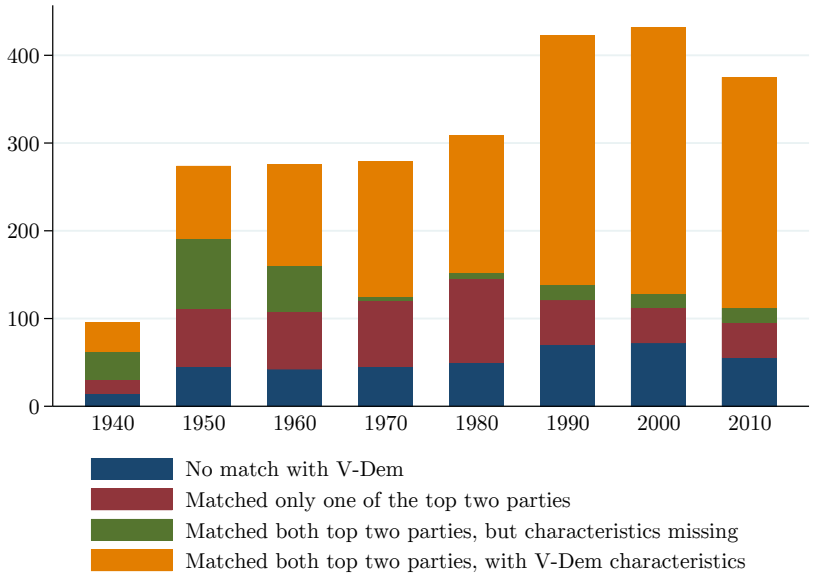
Notes: The lines in this figure show the evolution of the inferred characteristics of the Democratic and Republican parties in the United States, using V-Dem's left-right, populism, and illiberalism scores provided for election years after 1970 (the dots in the figure).

Figure C.4: Matching with V-Dem party characteristics

(a) Presidential elections



(b) Parliamentary elections



Notes: This figure shows matching rates of the top two parties of presidential and parliamentary elections with V-Dem.

Table C.1: Finding the consequences of an election (examples)

(a) An election without a power transition: the 1944 United States presidential election, designating the HOS (7 November 1944)

	Two years before the election	**Two years after the election**
Leaders in power	Franklin D. Roosevelt (Democratic Party, 730 days)	Franklin D. Roosevelt (Democratic Party, 156 days) Harry S. Truman (Democratic Party, 574 days)
Decision	*Leader before the election*: Franklin D. Roosevelt *Leading party before the election*: Democratic Party	*Leader after the election*: Harry S. Truman *Leading party after the election*: Democratic Party

(b) An election with a power transition: the 1994 Dutch parliamentary election, designating the HOG (3 May 1994)

	Two years before the election	**Two years after the election**
Leaders in power	Rudolphus Lubbers (Christian Dem. Appeal, 730 days)	Rudolphus Lubbers (Christian Dem. Appeal, 111 days) Willem Kok (Labour Party, 619 days)
Decision	*Leader before the election*: Rudolphus Lubbers *Leading party before the election*: Christian Dem. Appeal	*Leader after the election*: Willem Kok *Leading party after the election*: Labour Party

Notes: This figure provides two examples of the definition of the incumbent leader, incumbent party, leader after the election, and leading party after the election.

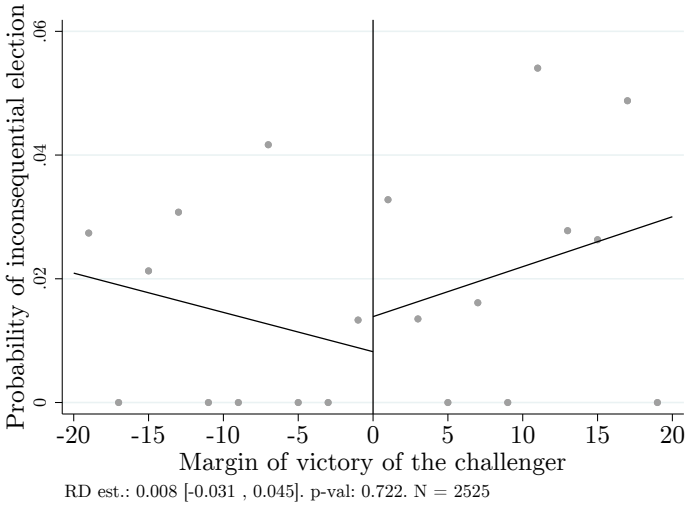
Table C.2: Measures of country performance: Summary statistics

Outcome	Mean	s.d.	min.	max.	Unit
GDP growth	–0.002	4.689	–18.532	19.059	%
Inflation (CPI)	–0.771	9.336	–54.423	52.756	%
Unemployment	0.027	2.363	–10.555	14.285	% of labor force
Trade intensity	1.620	13.570	–113.361	107.662	% of GDP
HDI	0.016	0.014	–0.124	0.070	0–1 scale
In war	–0.008	0.262	–1	1	0/1
Democracy index	0.019	0.074	–0.540	0.573	0–1 scale

Notes: This table lists the main variables which we use to measure country performance, defined for each outcome as the difference between the average level of that outcome in the four years following the election and its level in the year before the election. The summary statistics are computed on all election years after 1945.

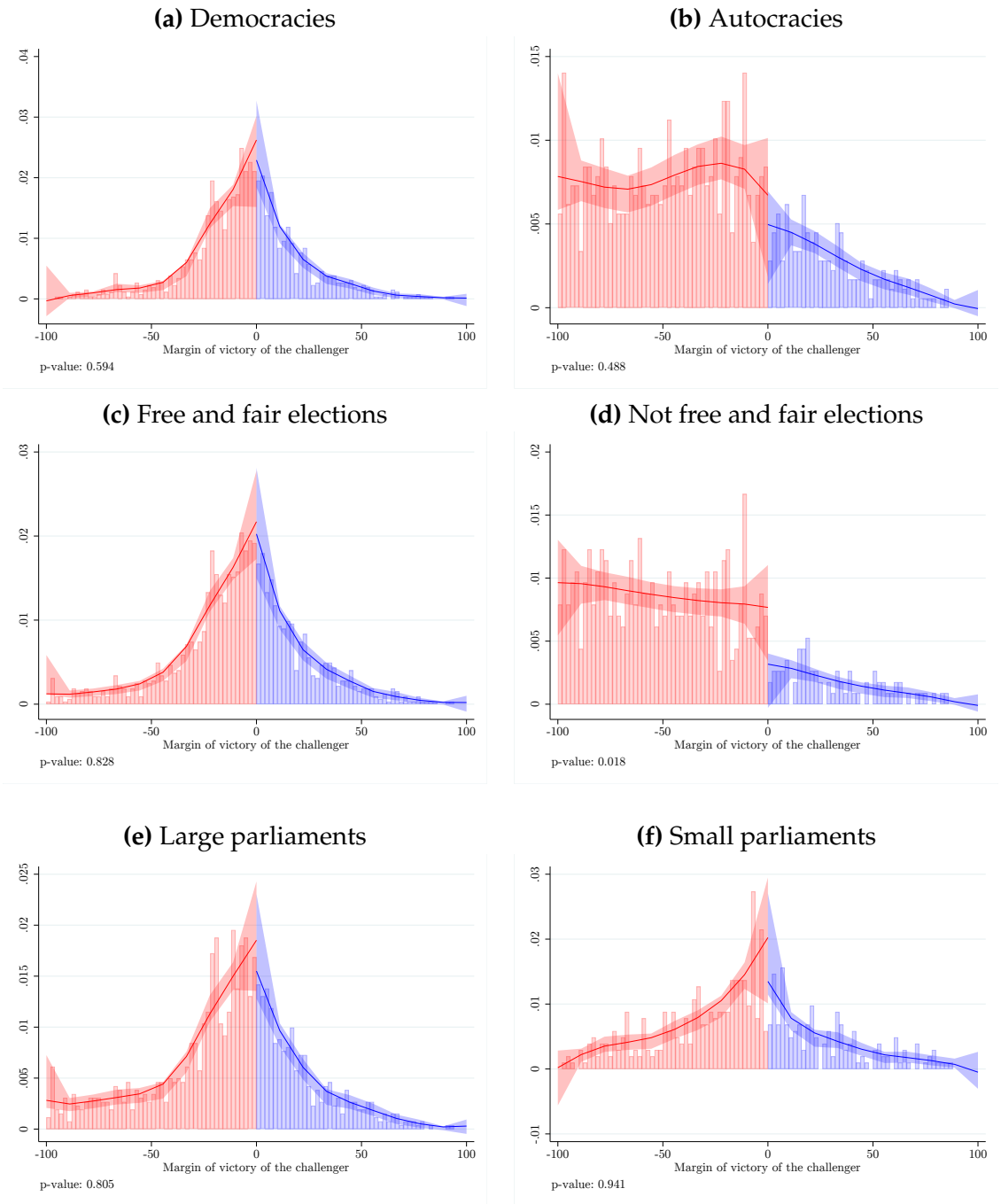
D Identification Checks and Placebo Tests

Figure D.1: Effect on the probability of inconsequential election



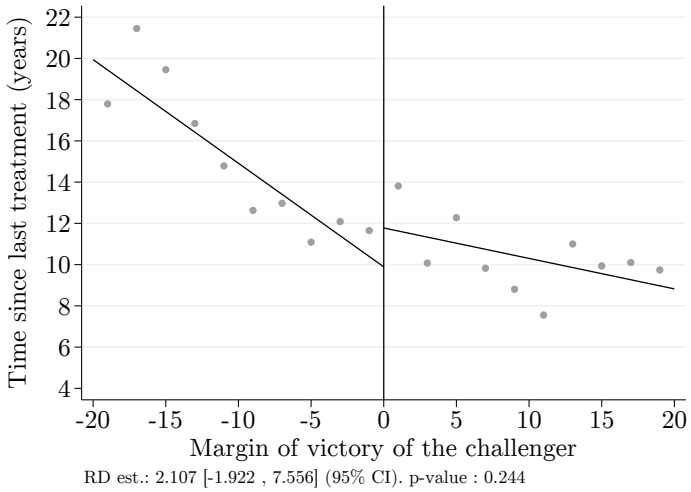
Notes: This figure shows the effect of an electoral turnover on a dummy equal to 1 if an election is not included in the sample because it was inconsequential (e.g., because it was cancelled or shortly followed by a coup).

Figure D.2: Density tests, additional subsamples



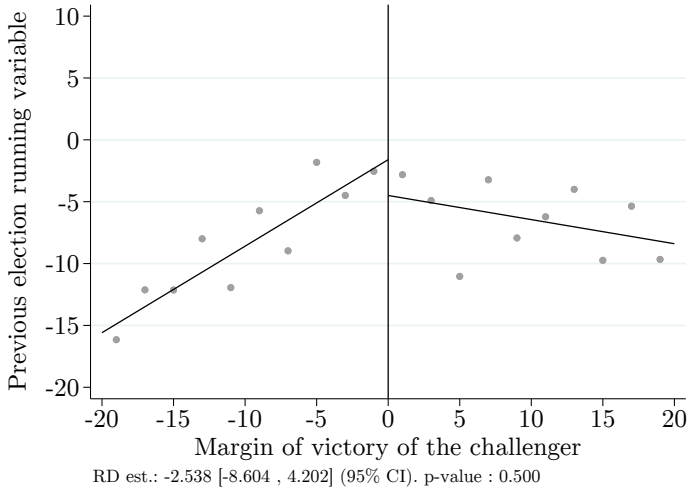
Notes: This figure presents similar density tests as in Figure 4, but for other subsamples. See the notes of Table 3 for the categorization of regimes as democracies or autocracies. Elections are classified as free and fair or not free and fair based on the `v2elfrfair` variable of V-Dem. Large (resp. small) parliaments are parliaments with more (fewer) than 60 members.

Figure D.3: Effect on the time elapsed since the last treatment



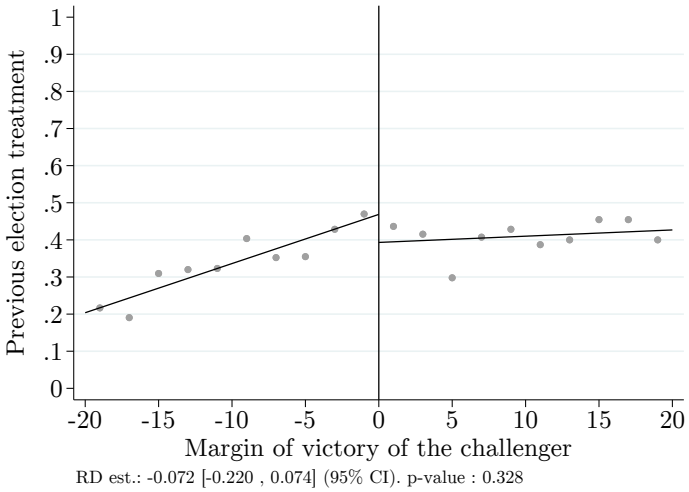
Notes: This figure shows the effect of an electoral turnover on the number of years elapsed since the last treated election (i.e. the last election with an electoral turnover) of the same type in the country.

Figure D.4: Effect on the value of the running variable at the previous election



Notes: This figure shows the effect of an electoral turnover on the value of the running variable at the previous election of the same type in the country.

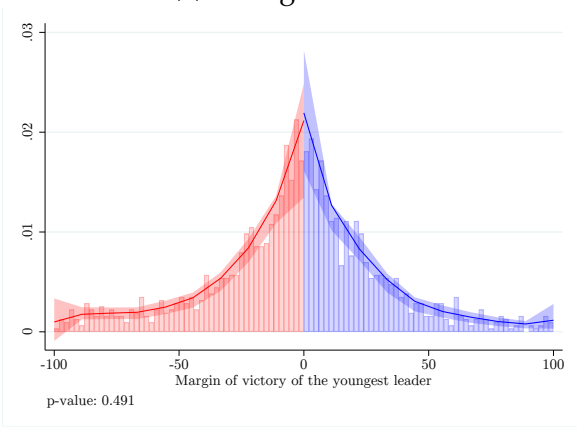
Figure D.5: Effect on the value of the treatment variable at the previous election



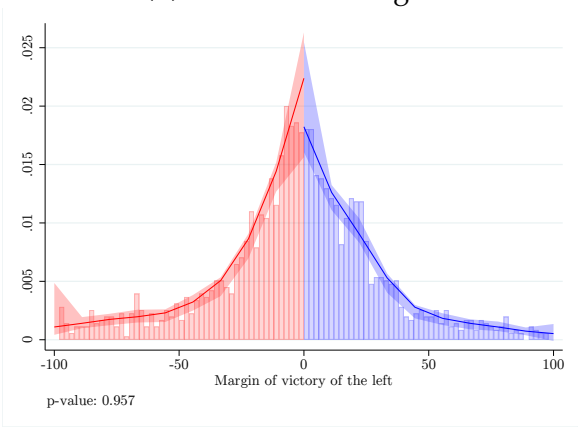
Notes: This figure shows the effect of an electoral turnover on a dummy equal to 1 if the last election of the same type in the country was treated.

Figure D.6: Density tests for party characteristics

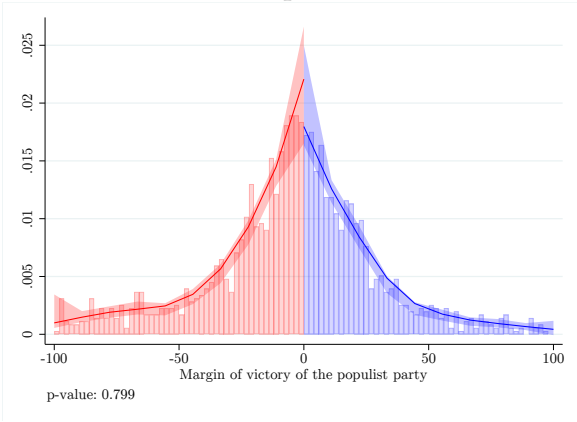
(a) Younger leader



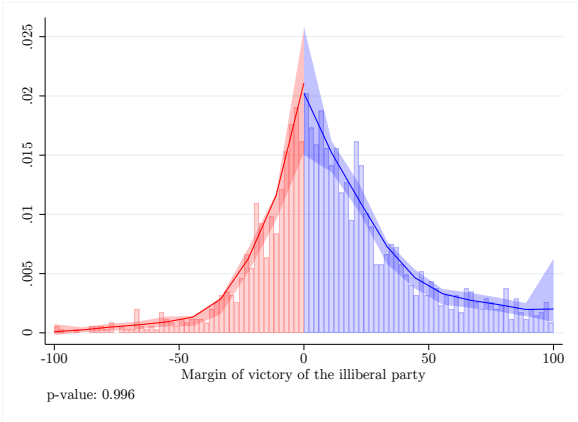
(b) Economic left-right



(b) Populism



(c) Illiberalism



Notes: This figure presents similar density tests as in Figure 4, but using as running variables the margin of victory of the youngest leader, the most left-wing party among the top two parties, the most populist party among the top two parties, and the most illiberal party among the top two parties. We restrict the sample to elections leading to the designation of a member of the executive.

Table D.1: Missing outcome data

Missing outcome	Est.	SE	p-val.	N
Economic performance	–0.021	(0.037)	[0.722]	2489
GDP growth	–0.036	(0.061)	[0.588]	2489
Inflation	–0.031	(0.047)	[0.537]	2489
Unemployment	–0.058	(0.072)	[0.502]	2489
Trade	–0.011	(0.059)	[0.940]	2489
Human Development Index	–0.021	(0.067)	[0.942]	2489
Peace	–0.016	(0.056)	[0.746]	2489
Democracy	0.018	(0.035)	[0.534]	2489
General index	–0.002	(0.022)	[0.917]	2489

Notes: This table presents estimation results for equation (1) using as a dependent variable a dummy equal to 1 if the outcome has missing data.

Table D.2: Placebo tests: Effects on the level of the outcome variables the year before the election

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	–0.096	0.028	–0.181	0.062	–0.099	–0.211	0.104	0.030	–0.004
	(0.090)	(0.143)	(0.140)	(0.165)	(0.168)	(0.166)	(0.111)	(0.100)	(0.066)
p-val.	[0.327]	[0.708]	[0.191]	[0.564]	[0.609]	[0.247]	[0.287]	[0.560]	[0.888]
N	2170	1919	1900	1331	1771	1305	2784	3032	3212
N eff.	1124	867	939	678	763	643	1332	1129	1461
Band.	22.2	19.2	20.5	21.8	17.4	20.9	21.1	15.6	20.0

Notes: This table reports estimates for equation (1), using as a dependent variable the value of the outcomes in the year before the election.

Table D.3: Placebo tests: Effects on the level of the outcome variables two years before the election

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	–0.094	–0.029	–0.226	0.110	–0.089	–0.194	0.049	0.023	–0.023
	(0.089)	(0.125)	(0.151)	(0.177)	(0.172)	(0.169)	(0.111)	(0.099)	(0.070)
p-val.	[0.289]	[0.701]	[0.153]	[0.488]	[0.677]	[0.324]	[0.548]	[0.616]	[0.910]
N	2144	1949	1875	1284	1737	1263	2817	3019	3200
N eff.	1207	1040	969	589	739	619	1192	1141	1429
Band.	24.9	23.2	21.5	19.5	16.7	20.5	17.8	15.9	19.8

Notes: This table reports estimates for equation (1), using as a dependent variable the value of the outcomes two years before the election.

Table D.4: Placebo tests: Effects on the level of the outcome variables three years before the election

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	0.018	0.044	–0.106	0.145	–0.108	–0.199	0.105	0.020	0.008
	(0.098)	(0.124)	(0.153)	(0.182)	(0.174)	(0.172)	(0.129)	(0.101)	(0.080)
p-val.	[0.814]	[0.766]	[0.560]	[0.398]	[0.599]	[0.335]	[0.271]	[0.654]	[0.686]
N	2122	1969	1839	1236	1695	1215	2789	3011	3191
N eff.	1213	1046	1103	543	714	598	1002	1159	1228
Band.	25.5	22.9	26.7	18.6	16.6	20.5	14.5	16.2	16.4

Notes: This table reports estimates for equation (1), using as a dependent variable the value of the outcomes three years before the election.

Table D.5: Placebo tests: Effects of a turnover on the change in outcome variables between two years before the election and the year before the election

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	0.014	–0.038	–0.127	0.157	0.056	0.010	–0.022	–0.001	–0.001
	(0.106)	(0.148)	(0.128)	(0.169)	(0.129)	(0.107)	(0.126)	(0.120)	(0.066)
p-val.	[0.872]	[0.729]	[0.337]	[0.339]	[0.611]	[0.839]	[0.972]	[0.956]	[0.874]
N	2144	1895	1868	1284	1736	1263	2764	3019	3199
N eff.	1042	885	1135	542	746	668	1141	1454	1711
Band.	20.6	19.9	28.0	17.6	17.1	22.0	17.3	21.3	24.7

Notes: This table reports estimates for equation (1), using as a dependent variable the difference in the level of the outcomes two years before the election and the year before the election.

Table D.6: Placebo tests: Effects of a turnover on the change in outcome variables between three years before the election and the year before the election

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	0.243	0.027	0.255	0.399	–0.046	0.207	0.076	–0.010	0.045
	(0.167)	(0.184)	(0.269)	(0.367)	(0.189)	(0.195)	(0.186)	(0.151)	(0.112)
p-val.	[0.124]	[0.853]	[0.267]	[0.228]	[0.947]	[0.154]	[0.456]	[0.873]	[0.535]
N	2120	1873	1832	1236	1693	1215	2734	3011	3189
N eff.	1058	850	882	541	806	604	944	1504	1345
Band.	21.3	19.0	19.7	18.4	19.8	20.8	13.9	22.2	18.2

Notes: This table reports estimates for equation (1), using as a dependent variable the difference in the level of the outcomes three years before the election and the year before the election.

Table D.7: Placebo tests: Effects on decade and regional dummies

Outcome	Est.	SE	p-val.	N
1940s decade dummy	0.001	(0.020)	[0.750]	2489
1950s decade dummy	0.014	(0.044)	[0.615]	2489
1960s decade dummy	–0.067**	(0.033)	[0.033]	2489
1970s decade dummy	–0.01	(0.039)	[0.760]	2489
1980s decade dummy	0.01	(0.040)	[0.690]	2489
1990s decade dummy	0.089	(0.056)	[0.106]	2489
2000s decade dummy	–0.015	(0.059)	[0.541]	2489
2010s decade dummy	–0.023	(0.051)	[0.499]	2489
Africa dummy	–0.043	(0.045)	[0.209]	2489
Asia dummy	0.022	(0.044)	[0.821]	2489
Eastern Europe dummy	0.043	(0.048)	[0.323]	2489
Latin America and Caribbean dummy	0.022	(0.065)	[0.844]	2489
Oceania dummy	–0.012	(0.026)	[0.870]	2489
Western Europe and North America dummy	–0.025	(0.071)	[0.943]	2489

Notes: This table reports estimates for equation (1), using decade and regional dummies as dependent variables.

Table D.8: Canay and Kamat (2017)'s density test

Sample	p-val.
Full sample	0.928
Presidential	0.121
Parliamentary	0.432
Free and fair	0.583
Not free and fair	0.734

Notes: This table shows estimation results for the covariate density test of Canay and Kamat (2017). We perform the test for different subsamples, using a set of covariates including decade fixed effects, region fixed effects, the value of the running variable at the previous election, the value of the treatment variable at the previous election, and the values of our main outcomes one, two, and three years before the election.

E Additional Outcomes and Robustness Checks

Table E.1: Robustness to including inconsequential elections

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	0.294***	0.046	0.443***	0.201	0.244**	0.187	0.097	0.200*	0.201***
	(0.124)	(0.151)	(0.194)	(0.165)	(0.125)	(0.166)	(0.115)	(0.106)	(0.075)
p-val.	[0.008]	[0.754]	[0.010]	[0.120]	[0.027]	[0.200]	[0.317]	[0.050]	[0.004]
N	2196	1844	1916	1343	1796	1317	2034	2222	2404
N eff.	807	898	713	702	789	575	846	1114	927
Band.	14.3	21.1	14.1	22.2	17.9	18.0	16.8	21.4	15.7

Notes: This table reports results for the statistical procedure of Table 2, further including in the sample inconsequential elections (because they were cancelled or shortly followed by a coup, a death of the elected leader, or a dissolution of the elected assembly – see Appendix B.1).

Table E.2: Robustness to clustering at the country × year level

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	0.284**	0.047	0.429**	0.218	0.250**	0.196	0.079	0.194*	0.202***
	(0.127)	(0.152)	(0.217)	(0.169)	(0.134)	(0.179)	(0.112)	(0.114)	(0.082)
p-val.	[0.013]	[0.787]	[0.025]	[0.105]	[0.036]	[0.202]	[0.379]	[0.068]	[0.009]
N	2163	1815	1887	1331	1767	1305	1999	2188	2368
N eff.	832	853	745	673	762	569	877	1228	920
Band.	15.4	20.0	15.6	21.7	17.3	18.1	18.4	24.7	16.0

Notes: This table reports results for the statistical procedure of Table 2, clustering standard errors at the country × year level.

Table E.3: Robustness to using only free and fair elections

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	0.227**	0.039	0.365**	0.296*	0.266**	0.121	0.102	0.155	0.162**
	(0.122)	(0.146)	(0.195)	(0.222)	(0.126)	(0.164)	(0.116)	(0.122)	(0.077)
p-val.	[0.040]	[0.868]	[0.037]	[0.096]	[0.016]	[0.404]	[0.294]	[0.251]	[0.033]
N	1508	1296	1363	926	1237	922	1427	1611	1613
N eff.	769	725	664	428	703	484	736	832	816
Band.	16.7	19.7	15.6	14.7	19.5	17.9	17.1	17.6	17.1

Notes: This table reports results for the statistical procedure of Table 2, restricting the sample to elections which were coded as free and fair by V-Dem.

Table E.4: Robustness to using only elections following a free and fair election

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	0.224*	0.028	0.366**	0.305*	0.254**	0.048	0.204*	0.180*	0.171**
	(0.124)	(0.160)	(0.203)	(0.229)	(0.131)	(0.166)	(0.120)	(0.100)	(0.074)
p-val.	[0.053]	[0.968]	[0.046]	[0.094]	[0.026]	[0.700]	[0.061]	[0.076]	[0.020]
N	1433	1214	1314	897	1185	895	1354	1524	1524
N eff.	748	609	639	414	641	496	591	1039	819
Band.	16.7	16.3	15.2	14.4	17.9	18.9	13.2	24.8	18.0

Notes: This table reports results for the statistical procedure of Table 2, restricting the sample to elections for which the previous election of the same type was coded as free and fair by V-Dem.

Table E.5: Effects on non-standardized outcomes

	Est.	SE	p-val.	N	Unit
GDP growth	0.237	(0.734)	[0.760]	1815	%
Inflation	–3.99**	(1.776)	[0.010]	1887	%
Unemployment	–0.514	(0.398)	[0.104]	1331	% of labor force
Trade intensity	3.42**	(1.718)	[0.026]	1767	% of GDP
HDI	0.003	(0.002)	[0.168]	1305	0–1 scale
In war (dummy variable)	–0.020	(0.029)	[0.384]	1999	0/1
Democracy index	0.014**	(0.007)	[0.043]	2188	0–1 scale

Notes: This table presents estimation results using the same outcomes and statistical procedure as in Table 2, but outcomes are expressed in their original units instead of standard deviations.

Table E.6: General index: Basic robustness checks

Robustness check	Est.	SE	p-val.	N
Baseline	0.205***	(0.076)	[0.005]	2368
Without economic performance	0.144**	(0.066)	[0.021]	2330
Without trade	0.221***	(0.087)	[0.008]	2343
Without HDI	0.204***	(0.078)	[0.005]	2367
Without peace	0.254***	(0.093)	[0.003]	2357
Without democracy	0.207**	(0.088)	[0.012]	2310
All components available	0.337***	(0.086)	[<0.001]	1016
Weighted index	0.204***	(0.075)	[0.004]	2368
Average of components	0.191***	(0.074)	[0.006]	2368
Without Africa	0.223***	(0.082)	[0.004]	1871
Without Asia	0.162**	(0.079)	[0.036]	1965
Without Eastern Europe	0.241***	(0.080)	[0.002]	2116
Without Latin America and Caribbean	0.156**	(0.082)	[0.045]	1736
Without Oceania	0.200***	(0.077)	[0.006]	2263
Without Western Europe and North America	0.238**	(0.098)	[0.01]	1889
Without 1940s	0.237***	(0.074)	[<0.001]	2304
Without 1950s	0.212***	(0.078)	[0.004]	2185
Without 1960s	0.200***	(0.080)	[0.008]	2177
Without 1970s	0.179**	(0.074)	[0.011]	2178
Without 1980s	0.215***	(0.083)	[0.005]	2134
Without 1990s	0.178**	(0.079)	[0.024]	1884
Without 2000s	0.214**	(0.097)	[0.022]	1839
Without 2010s	0.196**	(0.086)	[0.017]	1875
After 1990	0.257***	(0.082)	[<0.001]	1464
Before 1990	0.172	(0.146)	[0.361]	904
Excluding parliamentary elections with <60 seats	0.212***	(0.080)	[0.005]	1948
Only major elections of each regime	0.171**	(0.092)	[0.034]	1481
Without elections coinciding with regime changes	0.215***	(0.071)	[0.001]	1959

Notes: This table reports estimates for equation (1) for variations of the general index. All components available: we only keep observations for which we have data on all sub-indices. Weighted index: we construct the general index using the method of Pocock (1997), giving less weight to sub-indices which are more correlated with each other. Average of components: instead of constructing the general index as the simple average of the sub-indices, we construct it as the simple average of all outcomes which are part of the sub-indices.

Table E.7: Robustness to using of a three pre-election year average as baseline

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	0.250**	0.038	0.406**	0.138	0.217**	0.121	0.068	0.205**	0.193***
	(0.121)	(0.146)	(0.183)	(0.163)	(0.120)	(0.156)	(0.121)	(0.107)	(0.077)
p-val.	[0.019]	[0.708]	[0.015]	[0.248]	[0.041]	[0.361]	[0.590]	[0.038]	[0.008]
N	2163	1815	1890	1331	1767	1305	2000	2188	2368
N eff.	821	960	748	641	840	576	808	1120	938
Band.	15.2	23.0	15.6	20.5	19.8	18.6	16.5	21.9	16.4

Notes: This table reports results for the statistical procedure of Table 2, but instead of using the pre-election year as a baseline when defining our outcomes, we use the average of the 3 years before the election as the pre-election baseline.

Table E.8: Robustness checks: Economic performance

Robustness check	Est.	SE	p-val.
Baseline	0.285**	(0.123)	[0.010]
With region and decade FE	0.260**	(0.114)	[0.013]
Trimming instead of winsorizing	0.278**	(0.127)	[0.015]
Winsorising: 1st/99th percentiles	0.204**	(0.102)	[0.027]
Winsorising: 5th/95th percentiles	0.262**	(0.124)	[0.018]
3 post-election years	0.273**	(0.123)	[0.014]
5 post-election years	0.285**	(0.124)	[0.011]
7 post-election years	0.286**	(0.126)	[0.011]
10 post-election years	0.261**	(0.121)	[0.018]
With year 0 in the post-election period	0.261**	(0.118)	[0.014]
Twice the MSE-optimal bandwidth	0.206***	(0.111)	[0.008]
Half the MSE-optimal bandwidth	0.297	(0.226)	[0.310]
Second-order polynomial	0.301**	(0.134)	[0.021]

Notes: This table reports estimates for equation (1), using variations of the economic performance index as a the dependent variable. 3, 5, 7, 10 post years: instead of using the 4 post-election years in the construction of the index, we use fewer or more years in the post period. Second-order polynomial: instead of using a linear regression in the estimation of equation (1), we use quadratics.

Table E.9: Robustness checks: Trade

Robustness check	Est.	SE	p-val.
Baseline	0.252**	(0.126)	[0.026]
With region and decade FE	0.254**	(0.124)	[0.025]
Trimming instead of winsorizing	0.258**	(0.129)	[0.024]
Winsorising: 1st/99th percentiles	0.153	(0.122)	[0.136]
Winsorising: 5th/95th percentiles	0.266**	(0.129)	[0.021]
3 post-election years	0.247**	(0.124)	[0.028]
5 post-election years	0.235**	(0.127)	[0.033]
7 post-election years	0.248**	(0.127)	[0.022]
10 post-election years	0.241**	(0.125)	[0.024]
With year 0 in the post-election period	0.213**	(0.122)	[0.043]
Twice the MSE-optimal bandwidth	0.177**	(0.119)	[0.018]
Half the MSE-optimal bandwidth	0.402	(0.214)	[0.160]
Second-order polynomial	0.287**	(0.139)	[0.026]

Notes: This table reports results for the exercises of Table E.8 for international trade openness.

Table E.10: Robustness checks: Human Development Index

Robustness check	Est.	SE	p-val.
Baseline	0.200	(0.168)	[0.169]
With region and decade FE	0.142	(0.149)	[0.240]
3 post-election years	0.154	(0.162)	[0.266]
5 post-election years	0.231	(0.173)	[0.129]
7 post-election years	0.273*	(0.179)	[0.089]
10 post-election years	0.302*	(0.182)	[0.065]
With year 0 in the post-election period	0.193	(0.168)	[0.187]
Twice the MSE-optimal bandwidth	0.146	(0.149)	[0.147]
Half the MSE-optimal bandwidth	0.437**	(0.332)	[0.033]
Second-order polynomial	0.244	(0.191)	[0.132]

Notes: This table reports results for the exercises of Table E.8 for HDI.

Table E.11: Robustness checks: Peace

Robustness check	Est.	SE	p-val.
Baseline	0.079	(0.114)	[0.385]
With region and decade FE	0.065	(0.112)	[0.482]
3 post-election years	0.073	(0.115)	[0.427]
5 post-election years	0.062	(0.109)	[0.443]
7 post-election years	0.069	(0.110)	[0.410]
10 post-election years	0.034	(0.108)	[0.632]
With year 0 in the post-election period	0.042	(0.106)	[0.574]
Twice the MSE-optimal bandwidth	0.030	(0.106)	[0.364]
Half the MSE-optimal bandwidth	0.170	(0.151)	[0.407]
Second-order polynomial	0.138	(0.137)	[0.273]

Notes: This table reports results for the exercises of Table E.8 for conflict.

Table E.12: Robustness checks: Democracy

Robustness check	Est.	SE	p-val.
Baseline	0.193**	(0.101)	[0.043]
With region and decade FE	0.185*	(0.106)	[0.080]
3 post-election years	0.197*	(0.104)	[0.052]
5 post-election years	0.189*	(0.103)	[0.050]
7 post-election years	0.182*	(0.111)	[0.090]
10 post-election years	0.170	(0.117)	[0.115]
With year 0 in the post-election period	0.188*	(0.104)	[0.059]
Twice the MSE-optimal bandwidth	0.179**	(0.095)	[0.020]
Half the MSE-optimal bandwidth	0.194	(0.188)	[0.103]
Second-order polynomial	0.190	(0.151)	[0.187]

Notes: This table reports results for the exercises of Table E.8 for our main measure of democracy.

Table E.13: Robustness checks: General index

Robustness check	Est.	SE	p-val.
Baseline	0.205***	(0.076)	[0.005]
With region and decade FE	0.194***	(0.073)	[0.006]
Trimming instead of winsorizing	0.208***	(0.072)	[0.002]
Winsorising: 1st/99th percentiles	0.159**	(0.074)	[0.026]
Winsorising: 5th/95th percentiles	0.203***	(0.076)	[0.005]
3 post-election years	0.193***	(0.074)	[0.007]
5 post-election years	0.216***	(0.078)	[0.003]
7 post-election years	0.238***	(0.080)	[0.001]
10 post-election years	0.230***	(0.079)	[0.002]
With year 0 in the post-election period	0.181**	(0.074)	[0.012]
Twice the MSE-optimal bandwidth	0.168***	(0.069)	[0.003]
Half the MSE-optimal bandwidth	0.260**	(0.130)	[0.024]
Second-order polynomial	0.206**	(0.083)	[0.013]

Notes: This table reports results for the exercises of Table E.8 for the general index.

Table E.14: Robustness checks: General index (without democracy)

Robustness check	Est.	SE	p-val.
Baseline	0.207**	(0.088)	[0.012]
With region and decade FE	0.187**	(0.085)	[0.020]
Trimming instead of winsorizing	0.196**	(0.086)	[0.016]
Winsorising: 1st/99th percentiles	0.147*	(0.083)	[0.060]
Winsorising: 5th/95th percentiles	0.199**	(0.090)	[0.018]
3 post-election years	0.192**	(0.087)	[0.019]
5 post-election years	0.219***	(0.089)	[0.007]
7 post-election years	0.240***	(0.090)	[0.003]
10 post-election years	0.213***	(0.088)	[0.008]
With year 0 in the post-election period	0.174**	(0.084)	[0.028]
Twice the MSE-optimal bandwidth	0.153**	(0.081)	[0.013]
Half the MSE-optimal bandwidth	0.262*	(0.157)	[0.069]
Second-order polynomial	0.201**	(0.095)	[0.027]

Notes: This table reports results for the exercises of Table E.8 for the general index (excluding democracy).

Table E.15: Effects on additional economic performance variables

	Est.	SE	p-val.	N	Source
Log GDP	0.064	(0.114)	[0.421]	1843	Penn World Tables
Log GDP	0.037	(0.109)	[0.568]	2016	Maddison Project
Log GDP	0.061	(0.100)	[0.386]	1971	World Bank
Log GDP per capita	0.042	(0.097)	[0.579]	1843	Penn World Tables
Log GDP per capita	0.004	(0.096)	[0.848]	2016	Maddison Project
Log GDP per capita	0.069	(0.097)	[0.370]	1971	World Bank
GDP growth	0.050	(0.154)	[0.761]	1815	Penn World Tables
GDP growth	0.046	(0.120)	[0.659]	2009	Maddison Project
GDP growth	0.153	(0.148)	[0.225]	1941	World Bank
GDP per capita growth	0.043	(0.155)	[0.844]	1815	Penn World Tables
GDP per capita growth	0.044	(0.117)	[0.672]	2009	Maddison Project
GDP per capita growth	0.170	(0.149)	[0.184]	1940	World Bank
Capital stock growth	0.070	(0.162)	[0.689]	1813	Penn World Tables
Consumption growth	–0.015	(0.124)	[0.896]	1815	Penn World Tables
TFP growth	0.038	(0.162)	[0.915]	1381	Penn World Tables
(Minus) Inflation (CPI)	0.431**	(0.192)	[0.011]	1887	IMF
(Minus) Inflation (CPI)	0.419**	(0.199)	[0.018]	1777	World Bank
(Minus) Inflation (GDP deflator)	0.236**	(0.135)	[0.044]	1937	World Bank
(Minus) Unemployment rate	0.218	(0.168)	[0.104]	1331	ILO
(Minus) Unemployment rate	0.078	(0.269)	[0.702]	412	OECD
(Minus) Risk rating	0.057	(0.179)	[0.551]	1215	ICRG

Notes: This table reports RD estimates corresponding to equation (1) for measures of economic performance, expressed in standard deviation terms.

Table E.16: Effects on additional trade variables

	Est.	SE	p-val.	N	Source
Exchange rate appreciation	0.034	(0.163)	[0.957]	2158	IMF and OECD
Imports (% of GDP)	0.026	(0.111)	[0.850]	1868	CEPII
Imports (% of GDP)	0.176*	(0.108)	[0.053]	1770	World Bank
Exports (% of GDP)	0.046	(0.113)	[0.556]	1869	CEPII
Exports (% of GDP)	0.247**	(0.133)	[0.037]	1767	World Bank
Trade intensity	0.063	(0.108)	[0.448]	1866	CEPII
Trade intensity	0.252**	(0.126)	[0.026]	1767	World Bank
(Minus) Average tariff rate	–0.001	(0.222)	[0.855]	872	World Bank
(Minus) Taxes on trade (% of taxes)	0.062	(0.184)	[0.675]	1020	World Bank

Notes: This table reports RD estimates corresponding to equation (1) for measures of openness to international trade, expressed in standard deviation terms.

Table E.17: Effects on additional human development variables

	Est.	SE	p-val.	N	Source
(Minus) Infant mortality rate	–0.076	(0.097)	[0.295]	2018	UNICEF
HDI	0.200	(0.168)	[0.169]	1305	UNDP
HDI (without income component)	0.210	(0.191)	[0.253]	1306	UNDP
HDI: Life expectancy component	0.000	(0.178)	[0.878]	1391	UNDP
HDI: Education component	0.246	(0.211)	[0.196]	1306	UNDP
HDI: Income component	0.043	(0.097)	[0.570]	1382	UNDP
Life expectancy	0.041	(0.108)	[0.771]	2053	World Bank
(Minus) Homicide rate	–0.017	(0.315)	[0.985]	914	World Bank
Hospital beds per capita	0.130	(0.178)	[0.318]	837	World Bank
(Minus) Undernourishment (% of pop.)	0.202	(0.167)	[0.289]	763	World Bank
(Minus) Gini index	–0.023	(0.297)	[0.910]	485	World Bank
(Minus) Top 10% income share (pre-tax)	0.096	(0.240)	[0.494]	600	WID

Notes: This table reports RD estimates corresponding to equation (1) for measures of human development, expressed in standard deviation terms.

Table E.18: Effects on additional conflict variables

	Est.	SE	p-val.	N	Source
(Minus) In war	0.079	(0.114)	[0.385]	1999	COW Project
(Minus) War entered	–0.087	(0.116)	[0.537]	1999	COW Project
War ended	0.171*	(0.097)	[0.080]	1999	COW Project
(Minus) In interstate war	0.180*	(0.122)	[0.075]	1999	COW Project
(Minus) Entering an interstate war	0.168*	(0.125)	[0.089]	1999	COW Project
Ending an interstate war	0.078	(0.100)	[0.475]	1999	COW Project
(Minus) In intrastate war	–0.020	(0.113)	[0.751]	1999	COW Project
(Minus) Entering an intrastate war	–0.091	(0.084)	[0.203]	1999	COW Project
Ending an intrastate war	0.153	(0.102)	[0.104]	1999	COW Project
(Minus) In extra-state war	–0.025	(0.152)	[0.857]	1999	COW Project
(Minus) Entering an extra-state war	–0.258	(0.180)	[0.141]	1999	COW Project
Ending an extra-state war	0.022	(0.073)	[0.890]	1999	COW Project
(Minus) Conflict intensity level	0.147	(0.153)	[0.261]	1679	COW Project
(Minus) Initiated a military incident	0.127	(0.148)	[0.286]	1679	COW Project
(Minus) Any coup	0.021	(0.136)	[0.984]	2080	Powell and Thyne
(Minus) Involved in a conflict	0.057	(0.134)	[0.472]	2042	PRIO
(Minus) Intra-state conflict	–0.077	(0.145)	[0.689]	2042	PRIO

Notes: This table reports RD estimates corresponding to equation (1) for measures of conflict, expressed in standard deviation terms.

Table E.19: Effects on additional democracy variables

	Est.	SE	p-val.	N	Source
Democracy index	0.193**	(0.101)	[0.043]	2188	V-Dem
Electoral democracy index	0.195	(0.123)	[0.120]	2185	V-Dem
Egalitarian component index	0.169**	(0.070)	[0.024]	2188	V-Dem
Liberal component index	0.188*	(0.107)	[0.077]	2188	V-Dem
Participatory component index	0.132	(0.114)	[0.201]	2188	V-Dem
Deliberative component index	0.138	(0.107)	[0.205]	2188	V-Dem
Women political empowerment	0.176*	(0.097)	[0.078]	2149	V-Dem
Civil liberties index	0.160	(0.122)	[0.210]	1668	Freedom House
Political rights index	0.157	(0.137)	[0.218]	1668	Freedom House
Polity IV score	0.183*	(0.117)	[0.079]	1826	Polity IV project
Political competitiveness	0.142	(0.129)	[0.197]	1769	Polity IV project
Executive constraints	0.226*	(0.138)	[0.077]	1769	Polity IV project
Voice and accountability	0.168	(0.168)	[0.453]	999	World Bank
Political stability	0.188	(0.184)	[0.347]	991	World Bank

Notes: This table reports RD estimates corresponding to equation (1) for measures of the quality of democracy, expressed in standard deviation terms.

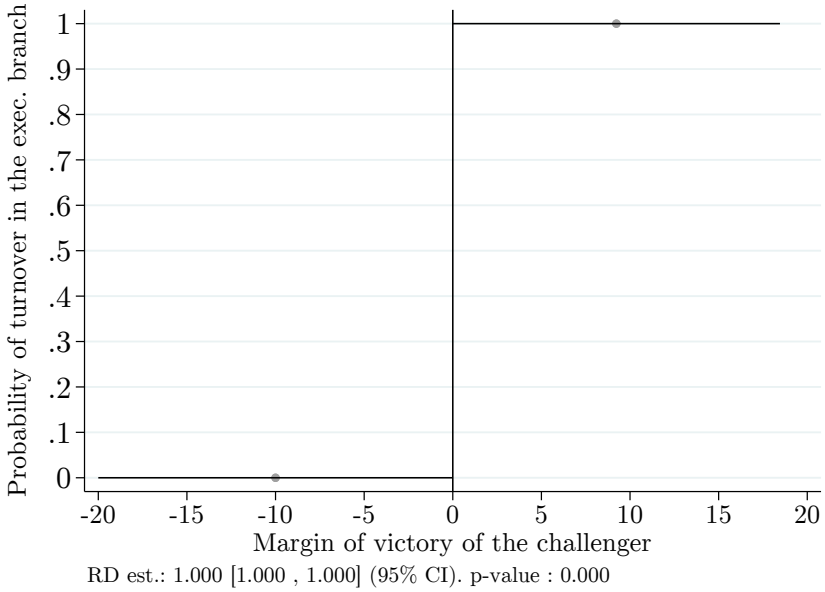
Table E.20: Robustness to controlling for pre-election values of the outcomes

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
El. turn.	0.306***	0.022	0.381**	0.378***	0.294***	0.164	0.052	0.221**	0.233***
	(0.105)	(0.082)	(0.178)	(0.169)	(0.124)	(0.158)	(0.095)	(0.111)	(0.076)
p-val.	[0.001]	[0.711]	[0.014]	[0.009]	[0.009]	[0.206]	[0.468]	[0.047]	[0.001]
N	2163	1815	1887	1331	1767	1305	1999	2188	2368
N eff.	701	890	634	526	715	523	959	944	792
Band.	12.1	21.2	12.1	16.3	15.8	16.5	20.3	17.9	13.0

Notes: This table reports results for the statistical procedure of Table 2, adding controls for pre-election outcomes in the estimation. We use as controls the value of the main outcomes for the pre-election year. When one control is missing, we set it to zero, and we include also in the list of controls a set of dummies equal to 1 if a control is missing.

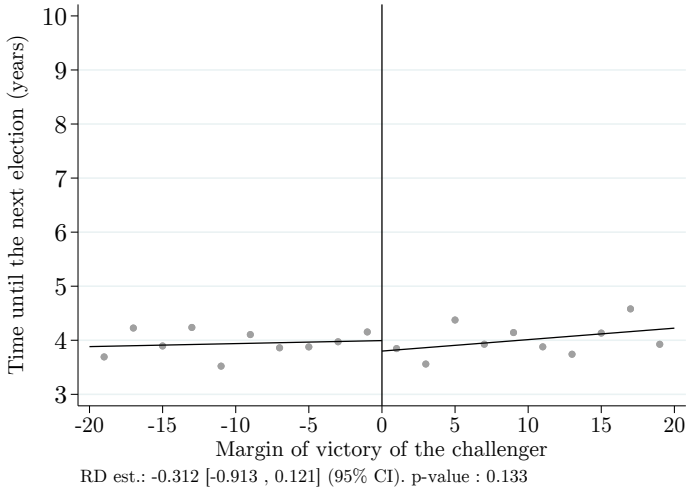
F Additional Empirical Results

Figure F.1: Effect of an electoral turnover on the probability of turnover in the executive branch (presidential elections)



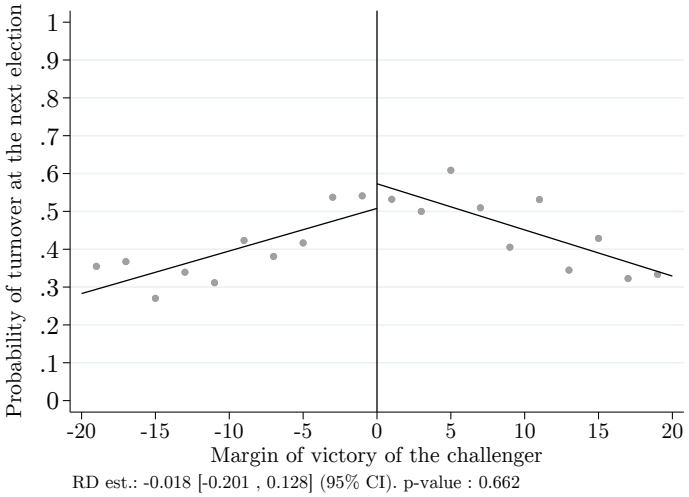
Notes: In this figure, we show results using the same procedure as in Figure 3 for the subsample of presidential elections. We use a bandwidth of 15 percentage points to compute the RD estimate.

Figure F.2: Effect on the distance (in years) to the next election



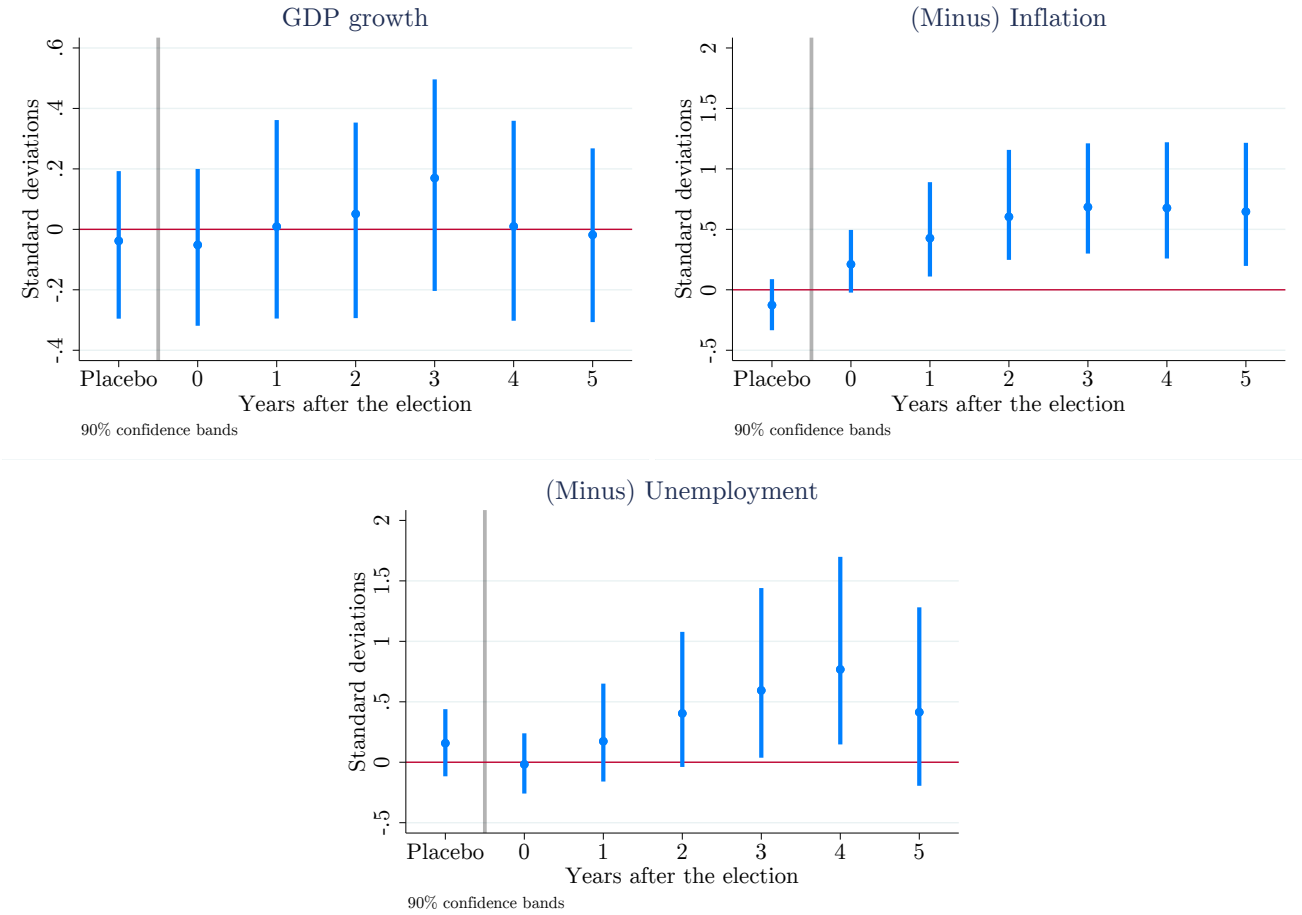
Notes: This figure shows the effect of an electoral turnover on the number of years until the next election of the same type in the country.

Figure F.3: Effect on the value of the treatment at the next election



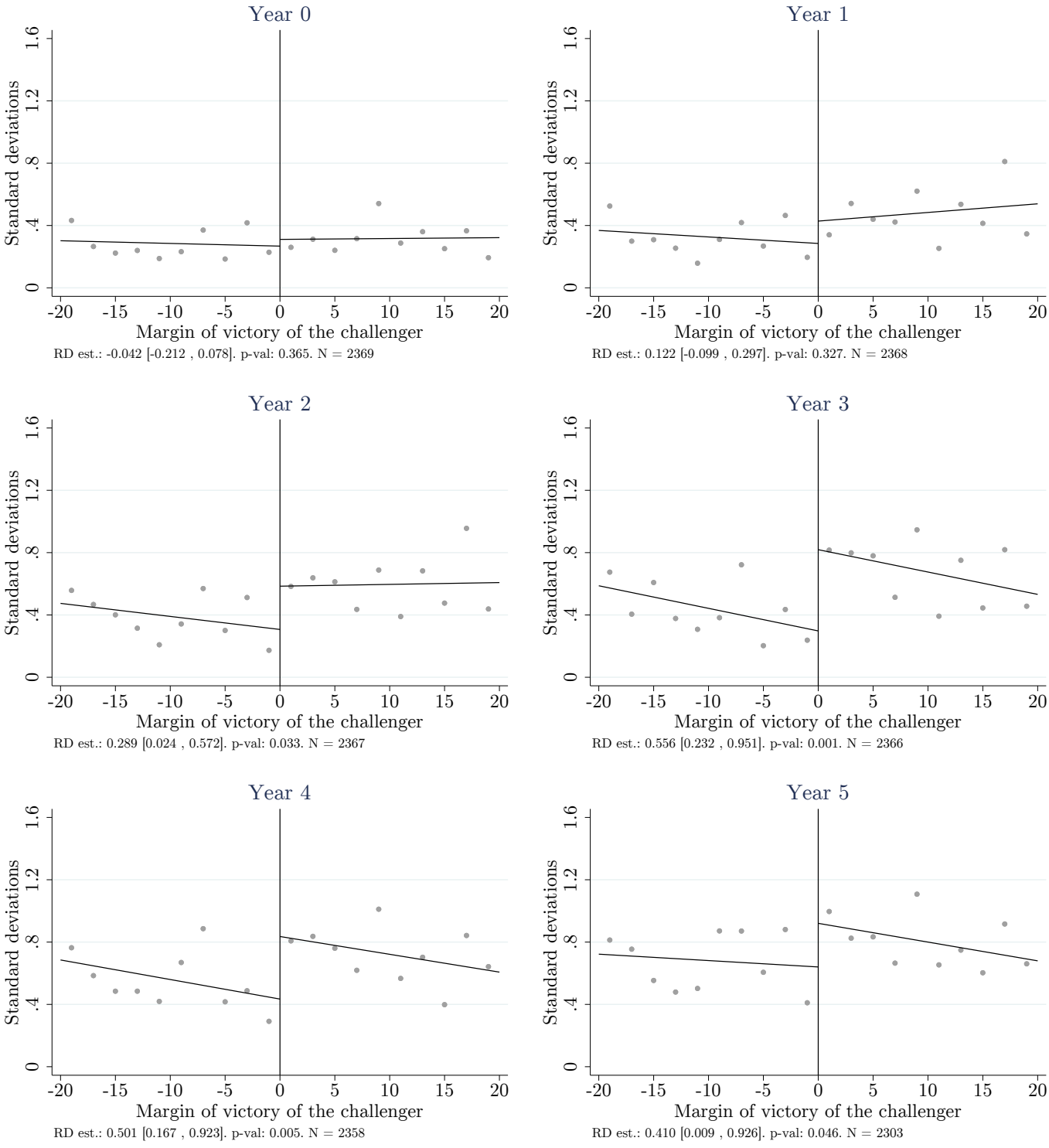
Notes: This figure shows the effect of an electoral turnover on a dummy equal to 1 if the next election of the same type in the country is treated.

Figure F.4: Dynamic effects of electoral turnovers on economic performance outcomes



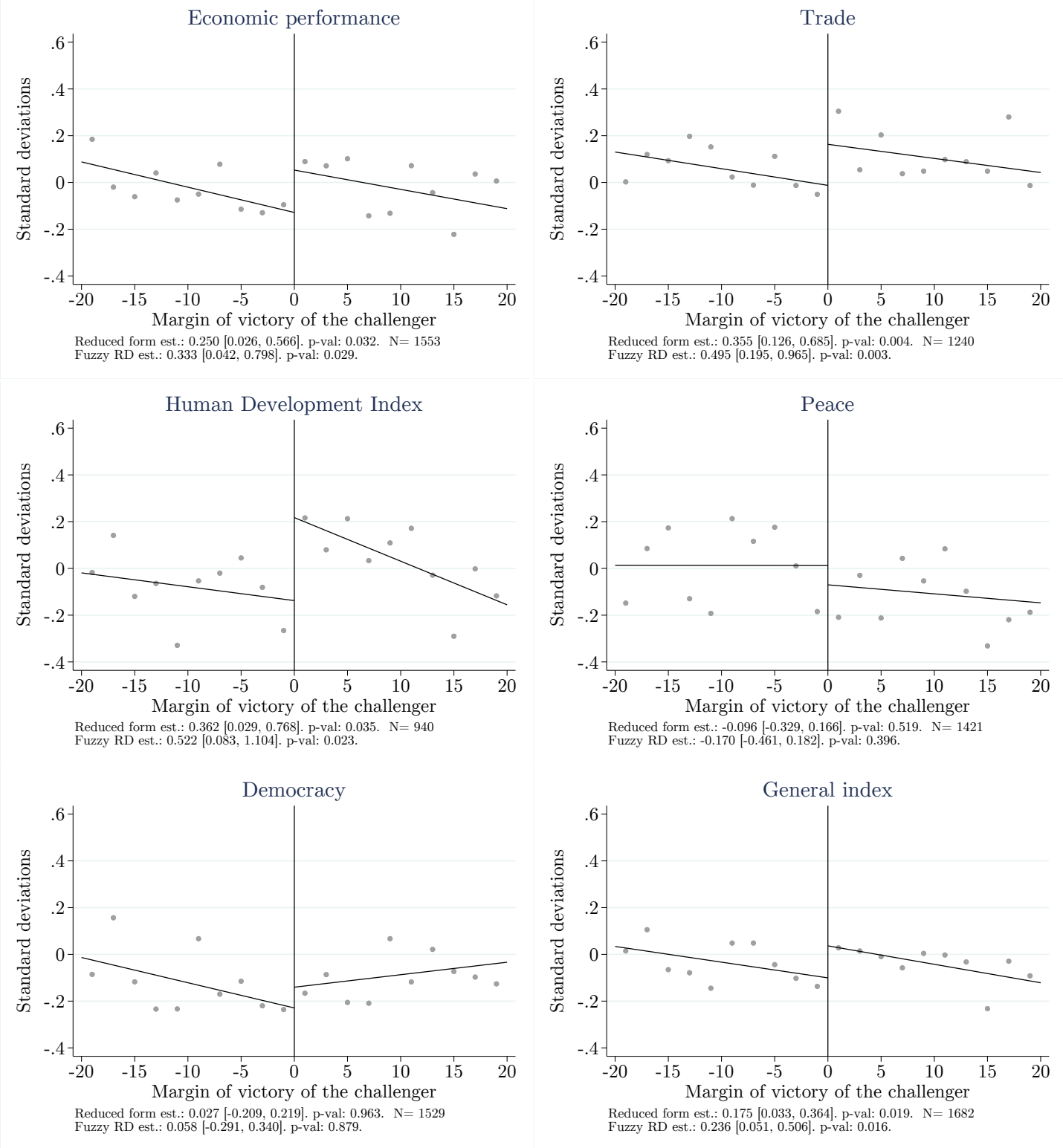
Notes: In this figure, we show estimation results using the same procedure as in Figure 6 for the outcomes which enter the economic performance index, measured in standard deviations.

Figure F.5: Dynamic effects on the general index



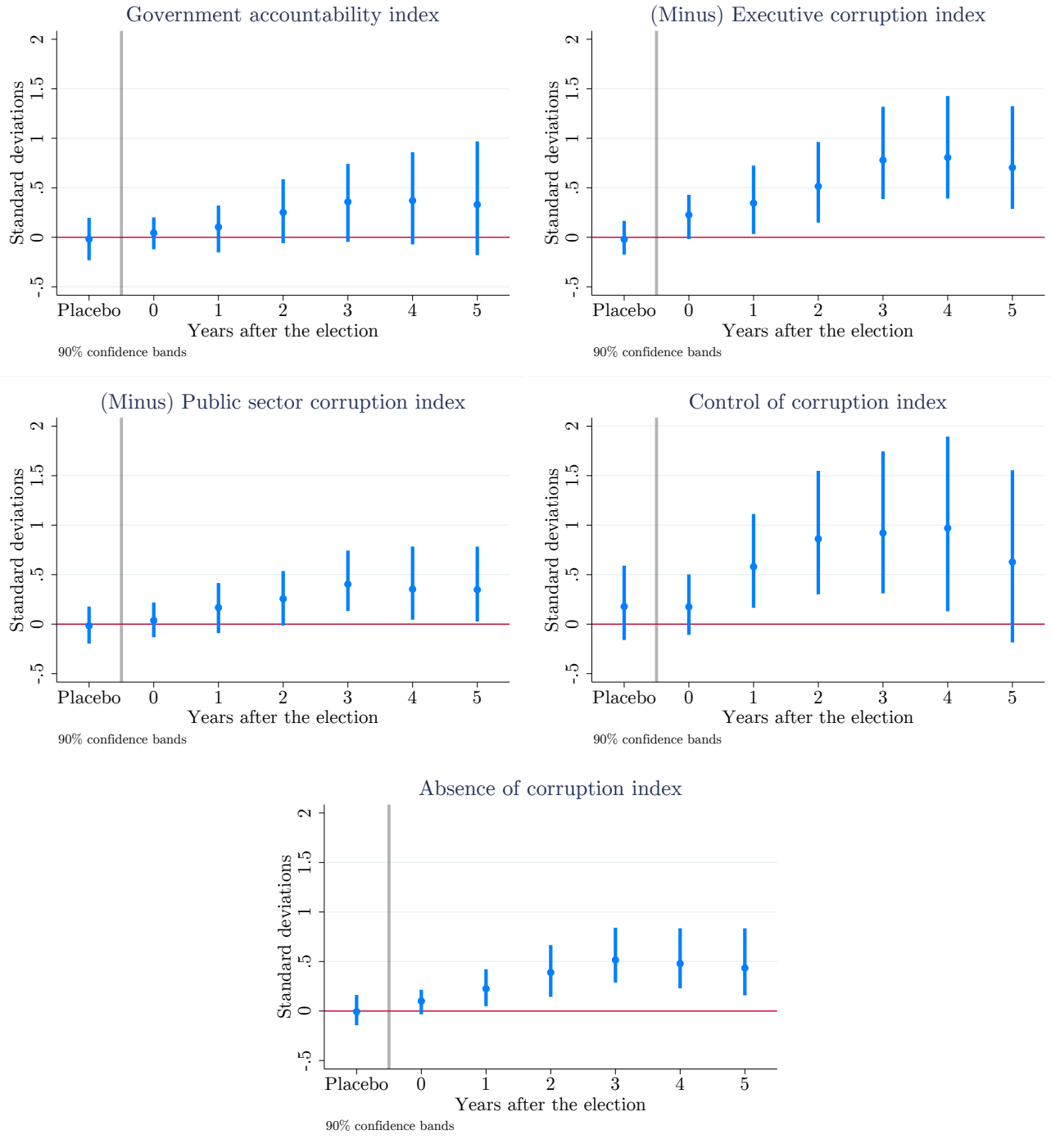
Notes: This figure shows effects of electoral turnovers on the general index of country performance on the year of the election, and years 1 to 5 after the election.

Figure F.6: Effects of executive turnovers on performance



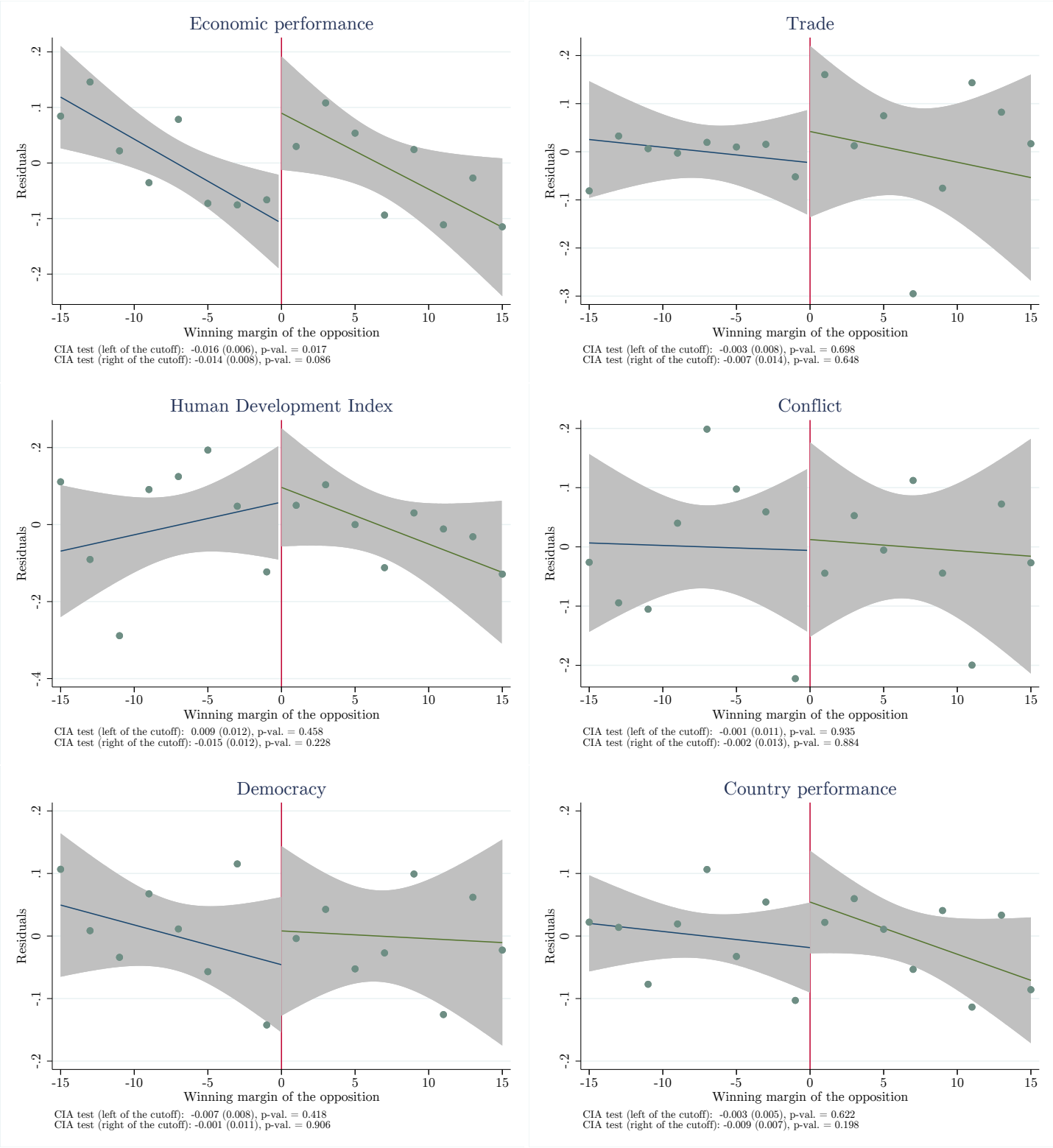
Notes: This figure reports RD plots corresponding to the Panel B of Table 5. We also report below each graph the estimates of Panel A of Table 5.

Figure F.7: Dynamic effects of turnovers on governance outcomes



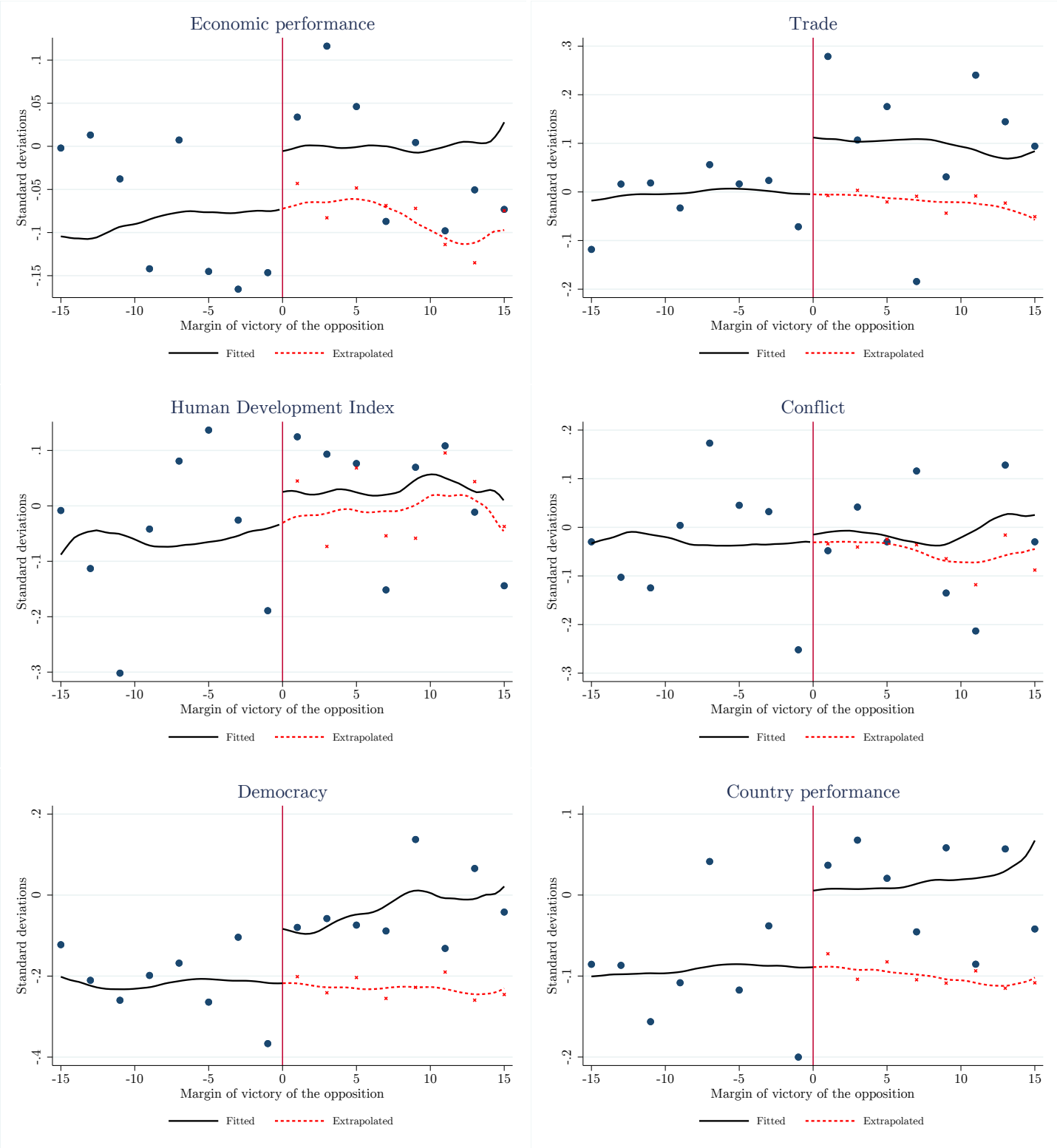
Notes: In this figure, we show estimation results using the same procedure as in Figure 6 for governance and corruption outcomes, measured in standard deviations.

Figure F.8: Angrist and Rokkanen (2015)'s procedure: Test of the conditional independence assumption



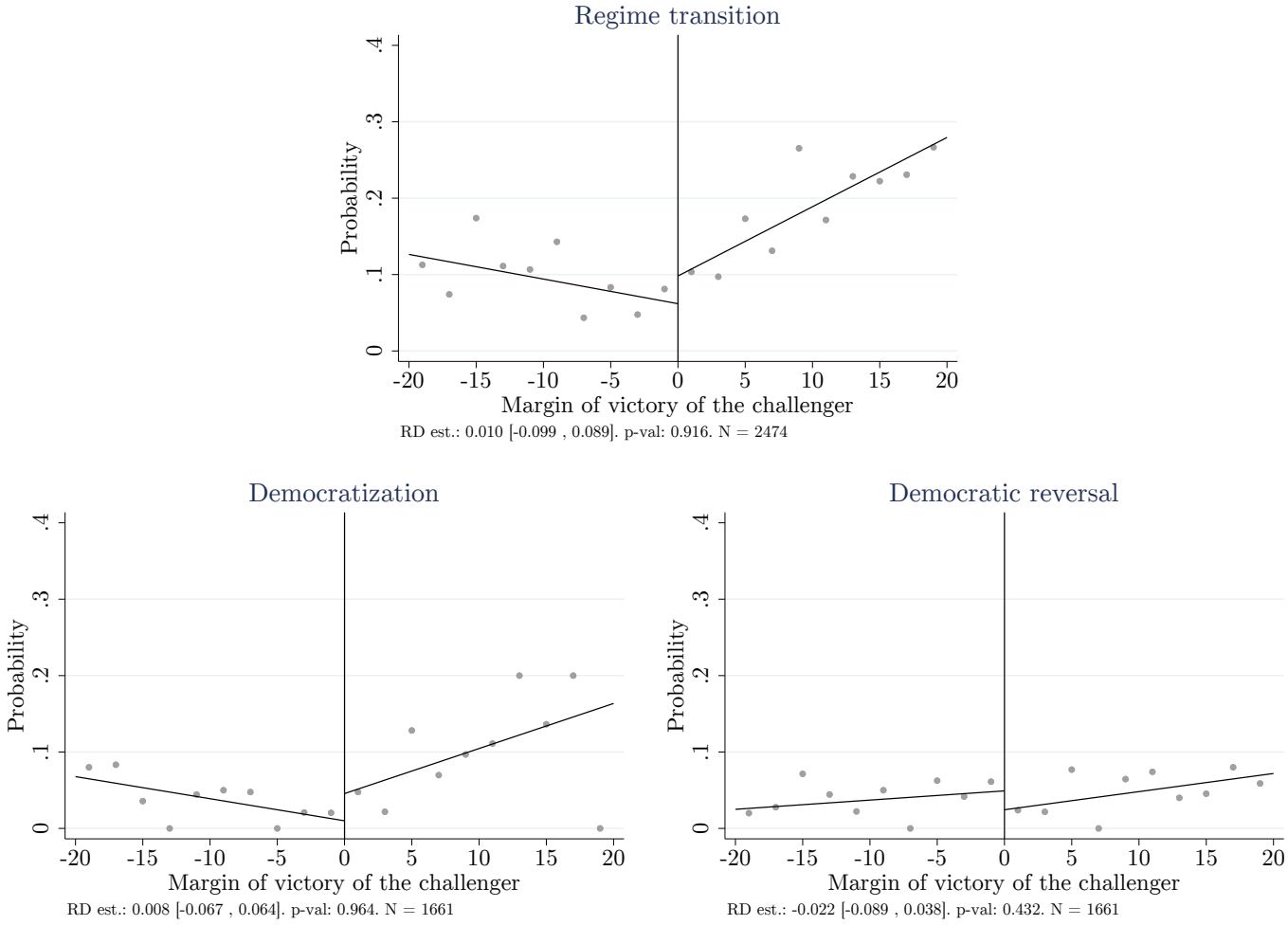
Notes: This figure reports regression-based tests of the conditional independence assumption. On both sides of the cutoff, we residualize each outcome variable using a set of regional dummies, decade dummies, and an election type dummy. We plot on each side of the cutoff a local polynomial fit of these residuals, which should be flat under the CIA. To test this assumption, we regress on both sides of the cutoff each outcome variable on the running variable and the set of controls, and test the hypothesis of a zero coefficient on the running variable. Results of these tests are reported below each graph.

Figure F.9: Angrist and Rokkanen (2015)'s procedure: CIA-based estimates of expected potential outcomes around the threshold



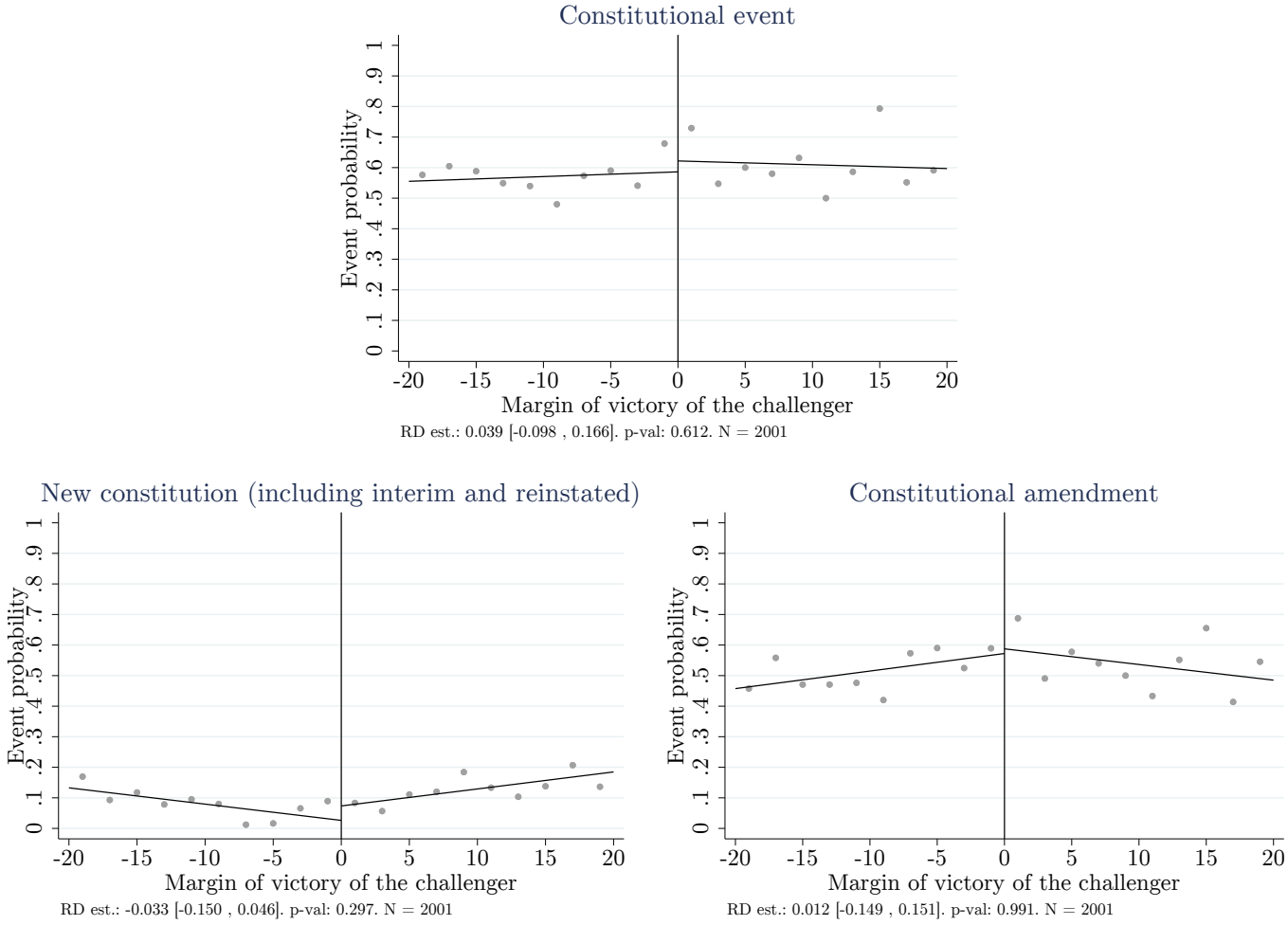
Notes: This figure reports estimates of expected potential outcomes under the CIA assumption in the [-15pp, 15pp] window, using as controls a set of regional dummies, decade dummies, and an election type dummy.

Figure F.10: Effects on regime transitions, democratizations, and democratic reversals



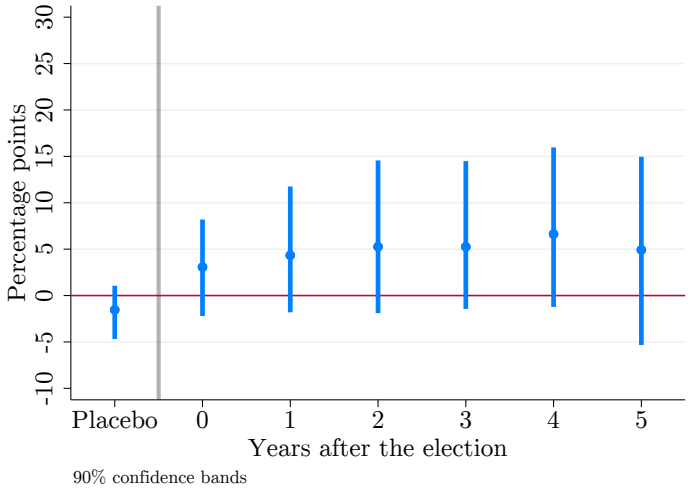
Notes: This figure shows effects of electoral turnovers on the probability of a regime transition, an episode of democratization, or a democratic reversal during the time span between the year of the election and four years after the election (included). Regime transitions are from our database of regimes (see Appendix A.4). Data on democratizations and democratic reversals are from Acemoglu et al. (2019).

Figure F.11: Effects on constitutional events



Notes: This figure shows effects of electoral turnovers on the probability of a constitutional event, the adoption of a new constitution (including interim and reinstated constitutions), and the adoption of a constitutional amendment during the time span between the year of the election and four years after the election (included). Data on constitutional events are from the Comparative Constitutions Project.

Figure F.12: Effects on executive approval



Notes: In this figure, we show estimation results using the same procedure as in Figure 6 for the approval ratings of the elected leader. Data on executive approval are from the Executive Approval Project (Carlin et al., 2019). The sample is restricted to elections that lead to the designation of a leader of the executive, and the outcome is the approval rating of the HOS (resp. HOG) when the election leads to the designation of the HOS (resp. HOG).

Table F.1: Heterogeneity analysis (incumbent tenure)

		Time since last treat.		Last elec. treated	
	(1)	(2)	(3)	(4)	(5)
	Baseline	High	Low	No	Yes
Economic performance	0.285**	0.098	0.391**	0.241*	0.401**
	(0.123)	(0.141)	(0.195)	(0.143)	(0.203)
Trade	0.252**	0.493***	0.163	0.285**	0.085
	(0.126)	(0.203)	(0.179)	(0.170)	(0.183)
HDI	0.200	0.110	0.308	0.085	0.290
	(0.168)	(0.237)	(0.223)	(0.223)	(0.239)
Peace	0.079	–0.062	0.247*	–0.131	0.233**
	(0.114)	(0.182)	(0.167)	(0.159)	(0.128)
Democracy	0.193**	0.130	0.215	0.166	0.224
	(0.101)	(0.166)	(0.180)	(0.132)	(0.174)
General index	0.205***	0.111	0.299***	0.094	0.277**
	(0.076)	(0.108)	(0.113)	(0.093)	(0.119)

Notes: This table reports results for the statistical procedure of Table 2 for different subsamples. Time since last treat.: number of years elapsed since last treatment. Last elec. treated: whether the previous election of the same type was treated or not. Using the method of Clogg et al. (1995), we cannot reject the equality of the estimates for the general index for high/low time elapsed since last treatment (p-val. = 0.227) and for previous values of the treatment (p-val. = 0.224). We obtain broadly consistent results when running a parametric regression in which we include the interaction between the treatment and the dimension of heterogeneity. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table F.2: Heterogeneity analysis (incumbent leader on the ballot)

		Incumbent leader is on the ballot		
	(1) Baseline	(2) Either	(3) Yes	(4) No
Economic performance	0.333**	0.242*	0.296	0.150
	(0.193)	(0.178)	(0.239)	(0.231)
Trade	0.495***	0.378**	0.581***	0.113
	(0.196)	(0.186)	(0.256)	(0.278)
HDI	0.522**	0.435*	0.480	0.344
	(0.260)	(0.273)	(0.339)	(0.440)
Peace	–0.170	–0.006	–0.102	0.141
	(0.164)	(0.152)	(0.201)	(0.300)
Democracy	0.058	–0.025	–0.218	0.139
	(0.161)	(0.137)	(0.238)	(0.190)
General index	0.236**	0.196**	0.183	0.212**
	(0.116)	(0.108)	(0.150)	(0.133)

Notes: This table reports fuzzy RDD estimates of the effects of turnovers in the executive branch in different subsamples, using the same method as in Table 5, Panel A. Column (1) corresponds to the full sample. In column (2), we exclude parliamentary elections for which we could not define an incumbent leader or a candidate of the incumbency. In columns (3) and (4), we split the elections included in column (2) between two subsamples: elections in which the candidate of the incumbency was the incumbent leader themself vs. someone else. Appendix A.9 explains how we identify the candidate of the incumbency. Using the method of Clogg et al. (1995), we cannot reject the equality of the estimates for the general index in columns (3) and (4) (p-val. = 0.924). We obtain broadly consistent results when running a parametric regression in which we include the interaction between the treatment and the dimension of heterogeneity. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table F.3: Effects in elections following high and low oil shocks

		Oil shock	
	(1)	(2)	(3)
	Baseline	High	Low
Economic performance	0.285**	0.200	0.328*
	(0.123)	(0.134)	(0.197)
Trade	0.252**	0.099	0.414**
	(0.126)	(0.162)	(0.189)
HDI	0.200	0.304	0.006
	(0.168)	(0.247)	(0.224)
Peace	0.079	0.128	0.111
	(0.114)	(0.157)	(0.148)
Democracy	0.193**	0.161	0.258
	(0.101)	(0.151)	(0.176)
General index	0.205***	0.193**	0.245**
	(0.076)	(0.094)	(0.112)

Notes: This table reports estimated effects of electoral turnovers for the full sample in column (1), and for the subsamples of elections following high and low oil shocks, in columns (2) and (3). We measure oil shocks using the average yearly growth in oil prices in the two years before the election. We then compute the median oil shock among close elections (i.e., elections for which the running variable is under 15 percentage points in absolute value), and split the sample between elections above and below the median. See Section 4.7 for details about the procedure. Using the method of Clogg et al. (1995), we cannot reject the equality of the estimates for the general index in both subsamples (p-val. = 0.719). We obtain broadly consistent results when running a parametric regression in which we include the interaction between the treatment and the dimension of heterogeneity. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table F.4: Angrist and Rokkanen (2015) CIA-based estimates

	CCT	Linear reweighting	Propensity score
Economic performance	0.285**	0.077*	0.074
	(0.123)	(0.046)	(0.046)
	[0.010]	[0.099]	[0.112]
	N=475/346	N=473/342	N=473/342
Equality with CCT (p-val.)		0.114	0.109
Trade	0.252**	0.115*	0.117*
	(0.126)	(0.069)	(0.069)
	[0.026]	[0.096]	[0.092]
	N=428/332	N=393/300	N=393/300
Equality with CCT (p-val.)		0.344	0.349
Human Development Index	0.200	0.033	0.030
	(0.168)	(0.071)	(0.072)
	[0.169]	[0.642]	[0.679]
	N=299/263	N=271/227	N=271/227
Equality with CCT (p-val.)		0.359	0.350
Conflict	0.079	0.035	0.032
	(0.114)	(0.071)	(0.072)
	[0.385]	[0.624]	[0.658]
	N=517/359	N=443/316	N=443/316
Equality with CCT (p-val.)		0.742	0.724
Democracy	0.193**	0.187***	0.181***
	(0.101)	(0.058)	(0.057)
	[0.043]	[0.001]	[0.002]
	N=730/463	N=491/337	N=491/337
Equality with CCT (p-val.)		0.962	0.917
General index	0.205***	0.113***	0.108***
	(0.076)	(0.038)	(0.038)
	[0.005]	[0.003]	[0.004]
	N=528/376	N=518/365	N=518/365
Equality with CCT (p-val.)		0.279	0.256

Notes: This table compares our baseline estimates from Calonico et al. (2014) (in the "CCT" column) to CIA-based estimates from Angrist and Rokkanen (2015): a linear reweighting estimator discussed by Kline (2011) (in the "Linear reweighting" column), and a version of the Hirano et al. (2003) propensity score estimator (in the "Propensity score" column). Standard errors are reported in parentheses, and p-values are reported in brackets. We also report the number of observations on the left and right of the cutoff within the CCT-optimal bandwidth for the Calonico et al. (2014) estimates and the number of observations on the left and right of the cutoff in the [-15pp, 15pp] window for the Kline (2011) and Hirano et al. (2003) estimates. Finally, we test the equality between the CCT and CIA-based estimates using the method of Clogg et al. (1995). $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table F.5: Effects of candidate characteristics on country performance (restricting to races with large differences in ideology/age between the top two parties/candidates)

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
Panel A: Effects of the victory of a younger leader (Age difference of 10 years or more)									
Victory	–0.062	–0.060	–0.336	0.508**	–0.077	–0.333*	–0.240	0.122	–0.055
	(0.170)	(0.241)	(0.244)	(0.281)	(0.189)	(0.254)	(0.189)	(0.208)	(0.131)
p-val.	[0.725]	[0.843]	[0.128]	[0.040]	[0.662]	[0.100]	[0.183]	[0.560]	[0.586]
N	657	556	583	387	528	389	608	643	701
N eff.	359	299	281	227	340	182	381	348	370
Band.	22.4	22.3	18.6	23.4	28.5	16.7	26.0	21.4	21.3
Panel B: Effects of the victory of the most left-wing party (large ideology distance)									
Victory	–0.069	–0.057	–0.011	–0.132	–0.151	–0.038	–0.068	–0.048	–0.106
	(0.149)	(0.203)	(0.200)	(0.239)	(0.160)	(0.230)	(0.158)	(0.116)	(0.095)
p-val.	[0.710]	[0.770]	[0.913]	[0.807]	[0.201]	[0.583]	[0.648]	[0.723]	[0.153]
N	1037	911	949	633	880	625	972	1070	1071
N eff.	556	555	479	313	425	330	510	674	520
Band.	17.8	21.2	16.1	15.9	15.4	16.8	17.2	21.9	15.5
Panel C: Effects of the victory of the most populist party (large ideology distance)									
Victory	0.208	0.301	–0.054	0.329	–0.060	0.160	–0.221	–0.053	0.021
	(0.221)	(0.355)	(0.290)	(0.290)	(0.191)	(0.290)	(0.243)	(0.204)	(0.124)
p-val.	[0.257]	[0.299]	[0.847]	[0.173]	[0.685]	[0.535]	[0.301]	[0.720]	[0.996]
N	736	626	649	483	645	468	661	759	760
N eff.	314	267	283	312	364	299	255	350	380
Band.	17.7	18.6	17.3	26.4	23.1	24.7	16.0	19.7	21.6
Panel D: Effects of the victory of the most illiberal party (large ideology distance)									
Victory	0.222	–0.051	–0.020	0.643*	0.004	–0.362	0.106	–0.433	–0.051
	(0.304)	(0.522)	(0.581)	(0.436)	(0.272)	(0.453)	(0.536)	(0.421)	(0.266)
p-val.	[0.404]	[0.870]	[0.759]	[0.066]	[0.973]	[0.351]	[0.669]	[0.296]	[0.984]
N	485	411	433	323	438	316	437	501	501
N eff.	180	146	143	99	161	148	136	181	159
Band.	18.2	18.2	15.2	12.9	17.0	21.2	16.3	17.6	15.1

Notes: This table reports alternative specifications for the regressions of Table 6. In Panel A, we restrict the sample to elections in which the leaders of the top two parties had an age difference of 10 years or more. In Panels B, C, and D, we restrict the sample to races in which there was an ideology distance of at least one standard deviation between the top two parties. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table F.6: Effects of candidate characteristics on country performance (restricting to races with top two parties on opposing sides of the political spectrum)

	(1) **Econ. perf.**	(2) GDP growth	(3) (Minus) Inflation	(4) (Minus) Unemp.	(5) **Trade**	(6) **HDI**	(7) **Peace**	(8) **Democ.**	(9) **General index**
Panel A: Effects of the victory of the most left-wing party (left/right races)									
Victory	–0.075	0.042	–0.133	–0.148	–0.285**	–0.039	0.025	00000	–0.038
	(0.168)	(0.220)	(0.241)	(0.268)	(0.169)	(0.265)	(0.172)	(0.141)	(0.094)
p-val.	[0.803]	[0.694]	[0.445]	[0.835]	[0.040]	[0.628]	[0.877]	[0.943]	[0.556]
N	799	703	747	493	686	489	757	821	821
N eff.	418	413	367	244	322	238	397	454	443
Band.	17.1	20.4	15.2	14.2	14.6	13.5	17.5	18.5	17.9
Panel B: Effects of the victory of the most populist party (populist/non-populist races)									
Victory	0.361	0.511	0.020	0.554*	–0.088	0.071	–0.328	–0.295	0.031
	(0.250)	(0.422)	(0.320)	(0.328)	(0.252)	(0.366)	(0.329)	(0.249)	(0.146)
p-val.	[0.117]	[0.153]	[0.991]	[0.070]	[0.847]	[0.821]	[0.245]	[0.149]	[0.894]
N	618	523	550	442	555	428	549	629	630
N eff.	256	189	238	236	232	241	196	254	281
Band.	18.7	15.9	18.8	22.1	18.4	22.7	15.2	18.3	20.5
Panel C: Effects of the victory of the most illiberal party (illiberal/non-illiberal races)									
Victory	–0.009	–0.309	–0.410	0.554**	–0.049	–0.262	0.111	–0.341	–0.106
	(0.323)	(0.484)	(0.539)	(0.332)	(0.329)	(0.476)	(0.419)	(0.317)	(0.212)
p-val.	[0.901]	[0.373]	[0.272]	[0.043]	[0.812]	[0.510]	[0.717]	[0.310]	[0.501]
N	492	419	445	342	454	326	437	501	501
N eff.	196	154	147	133	182	137	173	264	203
Band.	16.9	16.3	12.8	14.3	15.8	16.4	18.1	24.8	17.4

Notes: This table reports alternative specifications for the regressions of Table 6. In Panel A, we restrict the sample to elections in which there was a center-left, left, or far-left party and a center-right, right, or far-right party among the top two parties. In Panel B, we restrict the sample to elections in which one of the top two parties was populist and the other was not. In Panel C, we restrict the sample to elections in which one of the top two parties was illiberal and the other was not. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table F.7: Effects of candidate characteristics on government intervention

	(1) Gov. expenditure	(2) Tax revenue	(3) Debt	(4) **Gov. intervention**
Panel A: Effects of the victory of a younger leader				
Victory	0.259	0.085	0.070	0.171
	(0.235)	(0.211)	(0.181)	(0.149)
p-val.	[0.168]	[0.625]	[0.551]	[0.158]
N	865	738	1144	1325
N eff.	454	442	526	600
Band.	18.0	19.8	15.9	15.5
Panel B: Effects of the victory of the most left-wing party				
Victory	0.006	0.020	–0.009	0.030
	(0.186)	(0.180)	(0.134)	(0.123)
p-val.	[0.843]	[0.905]	[0.912]	[0.660]
N	1092	884	1413	1624
N eff.	550	555	766	803
Band.	16.0	20.2	19.1	16.6
Panel C: Effects of the victory of the most populist party				
Victory	–0.160	0.439***	0.046	0.119
	(0.191)	(0.190)	(0.130)	(0.118)
p-val.	[0.477]	[0.010]	[0.638]	[0.236]
N	1090	884	1408	1619
N eff.	574	467	822	835
Band.	17.0	15.8	20.9	17.5
Panel D: Effects of the victory of the most illiberal party				
Victory	–0.064	0.122	–0.059	–0.009
	(0.194)	(0.188)	(0.130)	(0.112)
p-val.	[0.805]	[0.560]	[0.709]	[0.982]
N	1058	857	1372	1581
N eff.	543	514	801	945
Band.	16.6	19.2	21.0	21.5

Notes: This table reports RD estimates for the procedure of Table 6 using the measures of government intervention of Figure 9 as outcomes. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table F.8: Effects on additional policy variables

	Est.	SE	p-val.	N	Source
Government expenditure (% of GDP)	0.130	(0.194)	[0.384]	1308	Our World in Data
Tax revenue (% of GDP)	0.089	(0.156)	[0.411]	1022	World Bank
Debt (% of GDP)	0.012	(0.118)	[0.790]	1713	IMF HPDD
Government intervention index	0.085	(0.109)	[0.287]	1994	IMF, WB, OWID
Education expenditure (% of GDP)	0.053	(0.186)	[0.955]	763	Our World in Data
Public health expenditure (% of GDP)	–0.027	(0.180)	[0.986]	1175	Our World in Data
Military expenditure (% of GDP)	–0.017	(0.078)	[0.812]	1854	Our World in Data
Subsidies and transfers (% of exp.)	0.059	(0.171)	[0.544]	831	World Bank
Central bank independence	0.304	(0.246)	[0.145]	1295	Garriga (2016)
Central bank policy rate	–0.173	(0.168)	[0.384]	1279	GFD
Educ. expenditure (% of exp.)	–0.034	(0.201)	[0.641]	690	Our World in Data
Health expenditure (% of exp.)	–0.023	(0.176)	[0.980]	1167	Our World in Data
Military expenditure (% of exp.)	–0.157	(0.153)	[0.264]	1253	Our World in Data
Taxes on goods (% of taxes)	0.112	(0.180)	[0.411]	1011	World Bank
Taxes on income (% of taxes)	–0.077	(0.143)	[0.648]	1035	World Bank
Taxes on trade (% of taxes)	–0.062	(0.184)	[0.675]	1020	World Bank
Financial liberalization index	0.256	(0.188)	[0.116]	647	Abiad et al. (2010)
Directed credit liberalization	0.387	(0.293)	[0.212]	647	Abiad et al. (2010)
Credit ceilings liberalization	0.530*	(0.407)	[0.087]	392	Abiad et al. (2010)
Credit controls liberalization	0.458	(0.304)	[0.108]	647	Abiad et al. (2010)
Interest rates liberalization	0.093	(0.229)	[0.644]	647	Abiad et al. (2010)
Pro-competitive measures	–0.132	(0.235)	[0.455]	647	Abiad et al. (2010)
Banking supervision liberalization	0.332	(0.264)	[0.224]	647	Abiad et al. (2010)
Privatization measures	0.292	(0.261)	[0.153]	647	Abiad et al. (2010)
International capital flows liberalization	–0.027	(0.264)	[0.833]	647	Abiad et al. (2010)
Security market liberalization	0.104	(0.308)	[0.650]	647	Abiad et al. (2010)
Economic freedom index	0.222	(0.244)	[0.417]	923	Fraser Institute

Notes: This table reports RD estimates corresponding to equation (1) for measures of policy, expressed in standard deviation terms.

Table F.9: Effects on the absolute value of the change in policy variables

	Est.	SE	p-val.	N	Source
Government expenditure (% of GDP)	0.027	(0.199)	[0.949]	1308	Our World in Data
Tax revenue (% of GDP)	0.255*	(0.158)	[0.073]	1022	World Bank
Debt (% of GDP)	0.160	(0.117)	[0.210]	1713	IMF HPDD
Government intervention index	0.202	(0.122)	[0.113]	1994	IMF, WB, OWID
Education expenditure (% of GDP)	0.061	(0.168)	[0.927]	763	Our World in Data
Public health expenditure (% of GDP)	–0.090	(0.174)	[0.472]	1175	Our World in Data
Military expenditure (% of GDP)	0.038	(0.083)	[0.715]	1854	Our World in Data
Subsidies and transfers (% of exp.)	0.086	(0.174)	[0.639]	831	World Bank
Central bank independence	0.291	(0.252)	[0.168]	1295	Garriga (2016)
Central bank policy rate	0.245	(0.178)	[0.101]	1279	GFD
Educ. expenditure (% of exp.)	0.205	(0.238)	[0.419]	690	Our World in Data
Health expenditure (% of exp.)	0.163	(0.164)	[0.208]	1167	Our World in Data
Military expenditure (% of exp.)	–0.002	(0.151)	[0.906]	1253	Our World in Data
Taxes on goods (% of taxes)	0.141	(0.186)	[0.366]	1011	World Bank
Taxes on income (% of taxes)	0.329**	(0.170)	[0.031]	1035	World Bank
Taxes on trade (% of taxes)	0.043	(0.181)	[0.760]	1020	World Bank
Financial liberalization index	0.225	(0.221)	[0.319]	647	Abiad et al. (2010)
Directed credit liberalization	0.418	(0.283)	[0.188]	647	Abiad et al. (2010)
Credit ceilings liberalization	0.217	(0.414)	[0.381]	392	Abiad et al. (2010)
Credit controls liberalization	0.407	(0.296)	[0.206]	647	Abiad et al. (2010)
Interest rates liberalization	–0.083	(0.260)	[0.817]	647	Abiad et al. (2010)
Pro-competitive measures	–0.140	(0.256)	[0.572]	647	Abiad et al. (2010)
Banking supervision liberalization	0.332	(0.264)	[0.224]	647	Abiad et al. (2010)
Privatization measures	0.271	(0.284)	[0.362]	647	Abiad et al. (2010)
International capital flows liberalization	0.144	(0.255)	[0.605]	647	Abiad et al. (2010)
Security market liberalization	0.112	(0.306)	[0.624]	647	Abiad et al. (2010)
Economic freedom index	0.359*	(0.234)	[0.092]	923	Fraser Institute

Notes: This table reports RD estimates corresponding to equation (1) for measures of the absolute variation of policy, expressed in standard deviation terms. See Section 5.2 for details on the outcome variables used.

Table F.10: Effects on additional governance variables

	Est.	SE	p-val.	N	Source
(Minus) Political corruption	0.165*	(0.100)	[0.061]	2188	V-Dem
(Minus) Executive corruption index	0.277**	(0.134)	[0.023]	2188	V-Dem
(Minus) Executive bribery	0.162	(0.110)	[0.102]	2188	V-Dem
(Minus) Executive embezzlement	0.321**	(0.156)	[0.028]	2188	V-Dem
Executive respects constitution	0.143	(0.108)	[0.195]	2188	V-Dem
(Minus) Public sector corruption index	0.164*	(0.097)	[0.069]	2188	V-Dem
(Minus) Public sector corrupt exchanges	0.117	(0.102)	[0.172]	2188	V-Dem
(Minus) Public sector theft	0.155	(0.105)	[0.131]	2188	V-Dem
Government accountability index	0.198**	(0.100)	[0.035]	2188	V-Dem
Vertical accountability index	0.105	(0.109)	[0.278]	2188	V-Dem
Diagonal accountability	0.147	(0.103)	[0.233]	2188	V-Dem
Horizontal accountability index	0.168	(0.120)	[0.161]	2188	V-Dem
Bureaucrat merit	–0.011	(0.103)	[0.706]	2092	V-Dem
Control of corruption	0.442**	(0.213)	[0.023]	990	World Bank
Government effectiveness	0.131	(0.211)	[0.471]	986	World Bank
Regulatory quality	–0.046	(0.201)	[0.893]	985	World Bank
Rule of law	0.368**	(0.197)	[0.034]	998	World Bank

Notes: This table reports RD estimates corresponding to equation (1) for measures of the quality of governance, expressed in standard deviation terms.

Table F.11: Effects on World Bank governance indicators, post 2002

	Est.	SE	p-val.	N	Source
Control of corruption (post 2002)	0.558***	(0.220)	[0.006]	849	World Bank
Government effectiveness (post 2002)	0.249	(0.201)	[0.169]	847	World Bank
Regulatory quality (post 2002)	0.018	(0.193)	[0.984]	846	World Bank
Rule of law (post 2002)	0.404***	(0.168)	[0.006]	855	World Bank
Voice and accountability (post 2002)	0.291	(0.181)	[0.159]	856	World Bank
Political stability (post 2002)	0.419**	(0.178)	[0.013]	850	World Bank

Notes: This table reports RD estimates corresponding to equation (1) for the World Bank governance indicators, expressed in standard deviation terms. We restrict the sample to elections after 2002, when the governance indicators are reported yearly.