

Political Instability and Institutional Reform: Theory and Evidence*

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Abstract

Strengthening executive constraints is one of the key means of improving political governance. This paper examines how such reforms are related to threats to the tenure of ruling political incumbents. We formalize this idea theoretically and test it empirically, using data on leaders since 1875 and events that decrease the likelihood that a group will remain in office. The econometric results are well in line with the theoretical predictions. We also present three case studies in support of our argument.

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1 Introduction

Creating stable systems of government, where citizens enjoy political rights and rulers are constrained, is a huge achievement. In many places, monarchs and autocrats with few or no formal checks on their powers have been displaced by constitutionally constrained rulers. Yet, there is no cause for unbridled optimism, as many of the world’s citizens continue to live under regimes where this is not the case. Consequences are predictable – government by a detached elite which often places little weight on collective interests. However, faced with the threat of losing power, such elites may be tempted to choose a path of reform by institutionalizing constraints on the power of future incumbents. Thus political instability can lead to an institutional transition like the one witnessed in the move from Communism in the late 1980s and early 1990s, and which the Arab spring may yet deliver.

Figure 1 gives a birds’ eye view of the world-wide evolution of cohesive political institutions, using the measure of executive constraints in Polity IV. The red line shows the prevalence of strong executive constraints in the raw data for the 50 countries where we have uninterrupted data from 1875 to 2004, the sample period of our empirical study (a formal definition of this measure is given in Section 3). The main variations roughly follow Huntington’s three waves of democratization (Huntington, 1991). They reflect reforms in Europe at the beginning of the past century, a setback in the interwar period, a return of checks and balances after World War II, and a surge of institutional reforms in Latin America and the previous Communist block since the 1980s. To lessen survivorship bias, the blue line shows the prevalence for all countries with available data. Though the proportion of countries with strong executive constraints is considerably lower at the end of the sample in this larger group, the pattern looks broadly similar with the exception of an additional dip from 1960 to 1975 driven by non-cohesive institutions in a number of newly established countries (mainly former colonies).

The challenge for researchers is to understand theoretically and empirically why reforms that strengthen constraints on executive power are brought into being. While the existing literatures in economics and political science have generated insightful theory and creative evidence, progress which puts the two together remains relatively modest. In particular, few predictions from specific models regarding what might drive reforms of particular institutional features have been taken to the data. Moreover, much of the literature has bundled together all aspects of institutional change into an overall democracy score, rather than attempting to unpack different aspects of changes in political institutions and the forces that shape them.

The aim of this paper is to connect theory and empirics linking constraints on the executive to political instability. This focus on executive constraints is motivated by Besley and Persson (2011a), which gives a leading role to this aspect of political institutions in fostering the creation of peaceful and effective states. In our theoretical framework, an incumbent group makes a choice over future institutions. Greater political instability, which threatens the survival of the ruling group in power, creates a strategic incentive to reform institutions to make them more cohesive. The logic is that, in the wake of instability, incumbents care more about what will happen once

they are out of power and may wish to constrain future incumbents to act more in the common interest.

The basic idea gets support from a first pass at the data. Leadership turnover is positively correlated with the adoption of stronger executive constraints. Conditional on country and year fixed effects, such reforms are about 9 percentage points more likely in the five years after a leadership transition than in the five years before the transition, a difference which is statistically significant. However, there are lots of reasons why leaders turn over and many of these are co-determined with the forces that shape institutional change; after all it may be necessary to remove a leader to make institutional reform possible. Thus, the direction of causation is far from clear.

Establishing a convincing link between turnover and reform therefore requires a source of exogenous variation. Following Jones and Olken (2005), we focus on leader exits due to death (or serious illness). Arguably, these events are exogenous to factors that shape the desire for reform. Moreover, for elite groups whose hold on power is partly linked to a specific leader or dynasty, leader deaths are disruptive to their continuity in power, increasing political instability. The heart attack of North Korean leader Kim Jong-il in December 2011 is a case in point. So far, his son appears to have been safely installed in power, but we are likely to witness a period of considerable uncertainty, which may create an incentive for reform. When we study random exits from power, we find that leadership turnover following the random death of a leader does indeed tend to be higher.

In a broader sense, the paper fits into a growing literature that examines links between development and democracy. Early studies were influenced by the modernization hypothesis of Lipset (1959), with more recent incarnations being Przeworski et al (2000) and Bueno de Mesquita et al (2003). However, the hypothesis that income drives democracy receives weak empirical support with, at best, ambiguous evidence – see, for example, Barro (1999), Acemoglu et al (2008), and Bruckner and Ciccione (2011). This finding is consistent with our approach. The timing of political change is often abrupt and linked to political circumstance rather than to slow moving variables like income or education, even though these variables may shape the wider context and citizens' aspirations.

Our approach is also distinct from a large literature which argues that social and cultural factors promote democracy. This includes the ideas that having a strong and effective middle class or plentiful social capital may be important as hypothesized, for example, by Almond and Verba (1963), Moore (1966), and Putnam (1993). In this general vein, Persson and Tabellini (2009) introduce the concept of democratic capital and find empirically that this consolidates rather than promotes transitions into democracy.

Specifically, the ambition of our paper is to study a particular dimension of political reform. It has most in common with the literature on franchise extension, particularly the work by Acemoglu and Robinson (2000, 2006), who offer insightful case-study evidence. They also emphasize the role of political instability, particularly due to the threat of a revolution. Franchise extension is used a commitment device by the elite to guarantee more favorable treatment of the masses. Aidt and

Jensen (2010) provide some econometric evidence in support of this view. However, we show that the leader deaths we focus on do not predict changes in the franchise. This is also borne out in our three case studies. In Spain, the franchise and stronger executive constraints were introduced simultaneously, while in Nigeria and Taiwan the franchise was already in place at the time of the leader's death.

Our argument also bears some resemblance to a classic argument first made by Rokkan (1970) and extended by Boix (1999). This holds that fears of electoral losses explain the move from plurality to proportional representation as a means of protecting the center-right from a labor electoral landslide in those countries in early 20th-century Europe where landed and industrial elites had not forged their interests. In a different vein, Lagunoff (2001) develops a theoretical model with a dynamic game between two groups, in which greater political turnover leads to greater constitutional support of civil liberties. Congleton (2007) discusses forces that promote the introduction of parliamentary oversight on royal power, focusing on instability due to preference shocks to the monarch. Acemoglu, Robinson and Torvik (2011) develop a model of endogenous checks and balances, stressing the way that these change the ability of special interests to influence policy. Jones and Olken (2009) exploits the difference between successful and unsuccessful assassination attempts to show that random leadership change causes democratic reform, as measured by a broad democracy index.

In the next section of the paper, we develop a simple infinite-horizon model where an incumbent elite facing high expected turnover may choose to undertake a reform that puts in place cohesive political institutions (executive constraints). Thus, the model allows us to derive a quite specific empirical prediction. In Section 3, we describe our data and lay out our event-study approach. That section also describes our empirical findings, which are well in line with the theoretical predictions. Random exits from political office not only produce more political turnover, but also trigger reforms in the direction of stronger executive constraints, which are statistically and economically significant. But random exits do not seem to induce any reforms of electoral institutions. Section 4 looks in some detail at our three case studies of the democratic transitions in Spain, Taiwan, and Nigeria. In all these cases, an autocratic leader died in office and this was followed by political reforms at the initiative on the ruling elite. Section 5 concludes the paper.

2 Model

The model is an infinite-horizon extension of the two-period model sketched in Besley and Persson (2011a, ch. 7). It has an incumbent government in power, which decides how to deploy a fixed tax revenue between transfers and public goods more or less constrained by current political institutions. In view of their prospect of surviving in office, incumbents choose the cohesiveness of political institutions for the next period.

Basics, groups, and turnover There is an infinite horizon with time periods denoted by $t = 1, 2, \dots$. The population is normalized to unity and divided into $\mathcal{J} + 1$ equally large groups indexed by J . The incumbent government in period t belongs to one of these groups, which is denoted by I_t . The other groups are in opposition and are indexed by O^J , $J = 1, \dots, \mathcal{J}$.

Each period has a government leader, who is a member of an "elite" sub-group within group I_t . This elite is a smaller share of the population, which is denoted by $e < \frac{1}{2}$. For simplicity, we suppose that all elite sub-groups are of equal size.

If the incumbent government is thrown out after any time period, then one of the previous opposition groups is randomly chosen with equal probability to appoint the new leader. The probability of losing office is thus

$$\text{Prob} [I_{t+1} \neq I_t] = \gamma_t .$$

The turnover rate has an immediate interpretation as political instability from the viewpoint of the ruling elite. Given the symmetry assumption, the probability of acquiring power for each opposition elite is $\frac{\gamma_t}{\mathcal{J}}$. Turnover is stochastic, as discussed in more detail below.

Income, preferences, and private consumption All individuals have equal and exogenous and constant (net of tax) income y . The utility function of a member of group J in period t is linear in private and public goods

$$u_t^J = \alpha g_t + x_t^J, \quad J \in \{1, \dots, \mathcal{J} + 1\} .$$

Variable g_t is the provision of public goods by the incumbent. The value of public goods is given by α , with $1 < \alpha < \frac{1}{e}$.

Variable x_t^J denotes private consumption, which depends on the status of an individual. For "rank and file" members of all groups J , as well as the elites of the opposition groups, it is given by

$$x_t^J = y + r_t^J ,$$

where r_t is a *per-capita* transfer payment to all group J rank-and-file members and non-governing elites. For simplicity, we work with the case $r_t^J = r_t$, so that all rank-and-file citizens and non-governing elites are treated in the same way. Any elite member of the incumbent group, including the leader, has private consumption

$$x_t^I = y + b_t ,$$

where b_t are the *per-capita* rents, extracted by the period- t leader on behalf of the elite – these rents could be generated endogenously through predatory activity of the elite, as in Besley and Persson (2011a, ch. 3). Thus, all members of the elite gets the same share of rents.

Everybody, including the incumbent elite, discounts the future with discount factor $\delta \in (0, 1)$. There are no savings in the model.

Government budget constraint The incumbent leader has access to some exogenous revenue of given size, T . This income is spent on three items: public goods g_t , transfers to every citizen outside the governing elite r_t , and rents to the every member of the incumbent elite group b_t .

The government budget constraint is therefore

$$T = g_t + r_t(1 - e) + eb_t .$$

Politics In each period, the probability of political survival for the incumbent group is drawn at random on $[0, 1]$ and the realization is denoted by γ_t . We will assume that it is *iid* over time, but this is inessential for our main argument and the model could incorporate persistent changes in political stability. In the empirical work to follow, we will use random deaths of leaders to gauge shocks to γ_t . From the viewpoint of an incumbent elite, a sudden death of its leader in office may create a power vacuum and decrease the probability that the new leader manages to keep the elite's hold on the executive, even in the wake of unchanged challenges from opposition groups.

A possible extension of the model would endogenize (part of) the turnover probability by allowing the incumbent to endogenously repress the population.¹ In such a model, an exogenous shock to expected turnover would raise the repression cost for the incumbent elite to maintain a given probability of staying in power, which would add another prospective motive for political reform.

Political institutions are more or less cohesive. We model this very simply, as a constraint on just how badly incumbents can treat the remainder of the population. In terms of the model, this constrains the rents an incumbent elite can extract at the expense of other agents in society. Thus, we assume that the ruling elite must give a fixed share, $0 \leq \theta_t \leq 1$, to every other citizen, for any unit of rents collected by members of its own elite group:

$$r_t \geq \theta_t b_t .$$

The parameter θ_t represents more or less cohesive institutions. We interpret a higher value of θ , as a tighter constraint on the incumbent government, i.e., a form of institutional commitment. Concretely, this could represent stronger constitutional provisions limiting executive powers, which are enforced by a legislature and/or an independent judiciary.

To model the process of political reform, we follow the existing literature and that there is some limited form of commitment over time: i.e., political institutions at time $t + 1$ are binding and can be chosen at t .²

Timing The model has the following timing:

¹A previous version of the paper considered a two-period version with endogenous repression. Besley and Persson (2011a, ch.7) includes a two-period model that also allows for the possibility of civil war.

²To endogenize the one-period ahead commitment in the choice of institutions would require introducing either costs from renegeing on promises or some kind of underlying costs of change. These could be added to the model at the cost of a considerably more complicated analysis.

1. The polity starts period t with an incumbent executive, I_t , and institutions, θ_t , which bind for that period.
2. Nature determines period- t political stability, γ_t .
3. The incumbent elite chooses policy $\{g_t, r_t, b_t\}$ for the current period, and political institutions, θ_{t+1} , for the next period
4. The elite from group I_t is replaced with probability γ_t . The elites of each opposition group have an equal probability of taking over the executive, namely γ_t/\mathcal{J} .

The model is recursive, which allows us to study period t , $\{g_t, r_t, b_t\}$, taking θ_t as given. We then study the choice of political regime θ_{t+1} , a more involved problem involving dynamic considerations.

Policy Beginning with public spending, the leader of the incumbent elite in period t sets policy to maximize the group's own utility

$$u_t^J = \alpha_t g_t + y + b_t, \quad (1)$$

subject to the constraints on rents and transfers, and the government budget constraint. Policies do not depend on γ and hence we write them solely as a function of θ . It is easy to see that the two constraints will all be satisfied with equality: in particular, transfers to citizens are set to a minimum $r_t = \theta_t b_t$. The remaining choice is how much to spend on public goods and how much to spend on rents. Because of the linear utility function, the incumbent will always choose a bang-bang solution

$$\begin{aligned} \hat{g}(\theta) &= \begin{cases} T & \text{if } \alpha \geq \frac{1}{\theta + (1-\theta)e} \\ 0 & \text{otherwise,} \end{cases} \\ \hat{b}(\theta) &= \left[\frac{1}{\theta + (1-\theta)e} \right] (T - \hat{g}(\theta)), \text{ and} \\ \hat{r}(\theta) &= \left[\frac{\theta}{\theta + (1-\theta)e} \right] (T - \hat{g}(\theta)). \end{aligned}$$

The incumbent leader either spends all available funds on public goods, or on rents to the elite (and necessary transfers to citizens), depending on how cohesive are institutions. Given that α satisfies $1 < \alpha < \frac{1}{e}$, by assumption, all residual spending is on public goods (rents) when θ is above (below) $\frac{1-\alpha e}{\alpha(1-e)}$. Cohesive institutions – i.e., $\theta \in [\frac{1-\alpha e}{\alpha(1-e)}, 1]$ – induce equality in outcomes in each period by guaranteeing that all spending is on public goods rather than transfers.

Choice of institutions We can now state the following result, which is proved in the Appendix:

Proposition 1 *The choice of political institutions depends on political instability as follows:*

$$\hat{\theta}(\gamma) = \begin{cases} \frac{1-\alpha e}{\alpha(1-e)} & \text{if } \gamma \geq 1 - \alpha e \\ 0 & \text{otherwise.} \end{cases}$$

Even though we have allowed for a continuous choice of θ , the incumbent always pushes the choice of institutions to one corner or another. The value $\frac{1-\alpha e}{\alpha(1-e)}$ represents the point at which it becomes optimal to spend on public goods, i.e., institutions are sufficiently cohesive. The degree of cohesion needed to achieve this is lower when public goods are more valuable (α is higher) or the elite is larger (e is larger).

Intuitively, higher prospects of losing office may lead incumbents to choose cohesive institutions. The choice is governed by a simple comparison of benefits and costs. The cost of picking cohesive institutions to the elite are the rents when it remains in office. The benefit is an assurance that spending will be on public goods when it is ousted from office. When the current elite faces a high prospect of losing office, a switch to cohesive institutions becomes more likely.

Empirical prediction To see the empirical implications of this result, suppose we – as econometricians – observe (a proxy for) the value of γ across countries. The values of the product αe are not observed, however – we only know that this variable has some distribution, with c.d.f. given by F . The conditional probability (likelihood) of observing cohesive institutions in the next period is then given by

$$\text{Prob} \left[\theta = \frac{1 - \alpha e}{\alpha(1 - e)} \right] = 1 - F(1 - \gamma) .$$

Clearly, this probability is increasing in γ .

As mentioned above, we use random deaths in office to proxy for shocks to the perceived survival probability of the incumbent elite.

Comparison with franchise extension In our model, an incumbent elite may strategically introduce strong executive constraints as insurance against being out of office when it fears that its probability of staying in power has gone down. This contrasts with the theory in Acemoglu and Robinson (2000, 2006), where fear of losing power in a revolutionary uprising may lead a governing elite to strategically carry out a franchise reform to commit to policies favorable to the masses, by ensuring that they – rather than the elite – hold political power. From the viewpoint of an incumbent elite in our model, such an extension of the franchise would increase the prospect of turnover, γ . In our approach, a ruling group has little reason ever to prefer institutional measures that reduce their odds of staying in power. Moreover, as argued in Besley and Persson (2011b), higher executive constraints should help reduce the risk of a leader being violently displaced.

In our simple model, however, once cohesive institutions are established, it is not costly for a ruling elite to carry out reform that raises γ – because $v^I = v^O$, when $\theta \geq \frac{1-\alpha e}{\alpha(1-e)}$, the incumbent becomes literally indifferent between being in and out of power. In this sense, the model points to

a prospective complementarity between strong executive constraints and an extended franchise. This suggests a possible sequencing of institutional reforms, where shocks to expected turnover may initially lead to stronger executive constraints and then to franchise extension. It is interesting that England – the showcase in Acemoglu and Robinson (2000) – introduced restraints on executive (royal) power through reforms such as Magna Carta and the Glorious Revolution long before the universal franchise.

Owing to the complementarity, the same forces that shape a high θ may also predict a high γ . But the sequencing argument still suggests a primary role for executive constraints. In the next section, we investigate whether the particular shocks to political stability that we use empirically also lead to franchise extension.

3 Data, Specification, and Results

We present the empirical work in three subsections. First we establish some core results. Second, we show that these are robust to some variations in the specification. Third, we discuss alternative interpretations of the results, including the possibility that they reflect generalized political change with other dimensions of political reform, especially the extension of the franchise.

3.1 Core Findings

We begin by testing the main prediction of the model, that reforms towards more cohesive institutions with stronger executive constraints follow exogenous shocks to political stability. We first discuss the data and then the results.

Data Our main measure of cohesive institutions is the executive constraint ("xconst") variable in the Polity IV data, which is available for a large number of countries during a long period of time. The coded executive-constraints score is an integer in between 1 and 7. We define a binary variable whereby a country is regarded as having cohesive institutions ($\theta \geq \frac{1-\alpha e}{\alpha(1-e)}$ in the model) if the score is greater than or equal to 5 and noncohesive otherwise. According to the Polity IV codebook, a value of 5 is the first level at which there are “substantial limitations of executive power”, where a “legislature or council often modifies or defeats executive proposals”, or “sometimes refused funds to the executive”, and “the accountability group makes important appointments to administrative posts” – see Marshall and Jaggers (2010, pp. 24-25). We believe this measure reasonably well captures the essence of parameter θ in the theory, a constraint on how easily the incumbent elite can extract resources for itself.

Plotting the empirical distribution of scores over countries and years, one observes a two-peaked distribution with a local minimum at 4. Using a score of 5 or higher as the cutoff, we obtain 171 reforms in an unbalanced panel with 167 countries and yearly observations since 1875. This is the measure we used to construct Figure 1 in the introduction.

For expected turnover, we use several data sources. To approximate shocks with high turnover, (a high value of γ_t) in the model, we use a subset of leader exits, as in Besley et al (2011). They extend the leader post-war sample of Jones and Olken (2005) using the Archigos data set (Goemans, Gleditsch and Chiozza, 2009) plus biographical sources, namely *Encyclopedia of Heads of States and Governments* (Lentz, 1994, 1999) and *Encyclopedia Britannica*. Since 1875, 217 leaders – out of a total of 2095 – left office due to death from natural causes, illness, or (true) accidents, rather than due to elections, assassinations, coups, or civil wars. For a full description of the random leader exits, see Besley et al (2011).

We refer to such events as *random exits*, where random refers to the timing being exogenous to the variable(s) of interests. Unlike previous work using such data, however, we do not interpret the exits as shocks to leader quality, but as shocks to expected turnover. This may reflect the ruling elite being unable to present an equally powerful (or legitimate) successor to the deceased leader, which results in a lower probability of remaining in power given the strength of the opposition. If random leader deaths events indeed represent higher *expected* turnover, as we are postulating, we expect *actual* political turnover to be higher after random exits. (At least this should be the case in weakly institutionalized polities, where the person in power is bound to have much greater significance than in strongly institutionalized polities.) We test this assumption below.

Table 1 gives an excerpt of the random exit data for a few countries in the sample. Consider e.g., the case of Croatia. Franjo Tudjman, was the first president of Croatia and leader of ultra-nationalist Croatian Democratic Union (HDZ). Tudjman and his party had dominated Croatian politics since independence in 1990 with authoritarian rule and a repressive regime without strong checks and balances (Polity IV codes "xconst" at 3 for the 1990s). In December 1999, however, Tudjman died of heart disease.

Figure 2 plots the number of worldwide random deaths per year in our sample, marked in blue and measured along the left vertical axis, against time. We see a clear increase in the frequency of random exits after the second world war. But this largely reflects the increasing number of countries in the sample, marked in red and measured along the right vertical axis.

Econometric specification To study the outcomes around a random exit from office econometrically, we rely on an event-study approach. Specifically, we define outcomes x (turnover or reform) around such deaths of leaders in office. We are interested in comparing the average level of outcome x in the T year window before and after an event.

To estimate these averages we run the regression

$$x_{i,t} = \beta^{PRE} PRE_{i,t} + \beta^{POST} POST_{i,t} + \alpha_i + \delta_t + \varepsilon_{i,t} ,$$

where i and t denote countries and years, α_i and δ_t are country and year fixed effects (estimated over the full sample), and $\varepsilon_{i,t}$ is a general country-specific error term – in the estimation, we use robust standard errors clustered by country. The binary indicator variables $PRE_{i,t}$ and $POST_{i,t}$ are set equal to 1 in each of the T years before and after every event in country i , excluding the

event years themselves. If we use a five year event window ($T = 5$) and eliminate overlapping periods, the number of independent events equals 183. (We will also show results for the case where $T = 10$.)

To estimate a causal effect of these events on outcome x , we require that the timing of the events is uncorrelated with $\varepsilon_{i,t}$. As usual, the fixed-country effects mean that we are only considering comparisons within a given country. Given the general reform pattern illustrated in Figure 1, it is important that our estimating equation includes fixed-year effects, so that general worldwide trends towards (or against) stronger executive constraints do not confound our estimates. The approach we take here makes it unlikely that slower moving factors such as cultural or economic change in the wider population drive changes in x , as they are approximately constant across the event window. To identify the effect of a leader death purely as a response to political instability, we also have to assume that any better ability for citizens to express sentiments in favor of a reform are fully captured in the threat this poses to the ruling group's survival.

The main question we ask is whether and how random exits matter. Our theory suggests two related tests. First, we consider the hypothesis $\beta^{POST} - \beta^{PRE} = 0$ when outcome x measures leadership turnover. If the hypothesis is rejected (and the difference is positive), this validates our claim that random exits gives rise to higher rates of turnover (compared to the period before the exit), i.e., political instability is higher. Second, we test the same hypothesis when outcome x measures institutional reform towards greater checks and balances. Finding a positive difference implies that a random leader death brings about a move towards cohesive institutions. Thus, our proposed mechanism requires that both hypotheses are rejected and that $\beta^{POST} - \beta^{PRE} > 0$.

Results The results on realized turnover (of any form) are found in the first part of Table 2. In column 1, for the full sample, the point estimate of $\beta^{POST} - \beta^{PRE}$ is positive; thus, the probability of a new (regular or irregular) exit is estimated to be 3 percentage points higher in the five years after a random exit than in the five years before. But the p -value (from an F -test) underneath the estimate suggests that the probability this result is driven by chance is as large as 11%.

In Column 2, we condition on the institutions in place at the event. The estimates are highly suggestive. In countries without strong executive constraints (noncohesive institutions), the probability of turnover is 6 percentage points higher in the five years after a random exit compared to the five years before, with a p -value around 1%. In countries with strong executive constraints, there is no significant effect and the point estimate is actually negative. These results lend credibility to our assumption that random exits indeed lead to higher expected turnover, when they occur in countries with weak executive constraints.

Results on reform towards cohesive institutions are found in Columns 3 and 4 of Table 2. Consistent with the results on turnover, random exits lead to a higher likelihood of having cohesive political institutions. Moreover, this effect is significant only when institutions are initially noncohesive. Specifically, the probability of reform is more than 6 percentage points higher in the five years after a random exit from office compared to the five years before.

Figure 3 offers another window on this finding. Unlike the estimates in Table 2, which rely on outcomes *averaged* over windows of *five* years before and after the event, this figure gives the average of the strong executive constraints dummy in *each* of the *ten* years before and after random leader exits in countries with weak executive constraints. The change around the death of a leader is clearly apparent.

Taken together, these results provide ballast to the core prediction of our model, linking political instability and institutional reform. Our results suggest that a random leader death in a country with noncohesive institutions, on average, leads to a 46% increase in the (actual) turnover rate among its leaders over the next five years – the average rate of turnover is about 0.13. In other words, expected tenure is shortened by about three and a half years, given an expected duration of seven and a half years. This increase in instability is accompanied by a 6% chance of reform towards cohesive institutions. The fact that random deaths of leaders drives *both* increases in turnover and reforms to cohesive institutions increases our confidence that we can indeed interpret the data in the way that our model suggests. Subsection 3.3 discusses alternative interpretations.

3.2 Robustness

We now explore the robustness of our main result on cohesive institutions.

Different event windows Columns 1-4 in Table 3 repeat the analysis of Table 2, but rely on a ten-year, rather than a five-year, event window before and after each random exit from office (i.e., $T = 10$). Eliminating overlaps between event windows now gives us some 20 fewer events compared to the five-year definition. However, the results are very similar to those in Table 2, except that the positive point estimates of $\beta^{POST} - \beta^{PRE}$ for turnover and reforms in the entire sample are now statistically significant.

A placebo test Even though we include year fixed-effects, we need to be sure that our results are not just capturing country specific trends moving countries towards stronger executive constraints. The four remaining columns in Table 3 report results from a placebo test where the random deaths in the data are lagged by five years. The results are encouraging. While a couple of the turnover estimates are (marginally) significant, the point estimates of $\beta^{POST} - \beta^{PRE}$ are now negative, rather than positive. The reform estimates for the full sample and noncohesive institutions are positive, but small and statistically insignificant. Thus, it does indeed appear that the results are driven by the specific events that we have chosen to focus on, rather than unobserved trends.

3.3 Alternative Interpretations

We now discuss some alternative interpretations of our results, and present evidence to assess their relevance compared to the approach that we suggest. In each case we consider, we do not

find evidence to support these alternative views.

Aging or long-tenured leaders? One concern is that the exits from office that we exploit are not really random, since deaths of elderly and/or ailing autocrats – whatever the cause – are likely to be anticipated. In such case, reforms could conceivably be “stored up” until after the death of the autocrat. If this were the case, we should expect to see an heterogeneous effect of exits, with stronger effects for older leaders. To investigate this possibility, we condition on the age of the leader at the time of death, in addition to the existing political regime. More specifically, we use the median age at exit (of all leaders in each sub-sample) to define old and young leaders under cohesive and noncohesive institutions. The result in Column 1 of Table 4 shows that the point estimate on the propensity to reform towards cohesive institutions is, in fact, slightly greater for old leaders. However, the $\beta^{POST} - \beta^{PRE}$ estimates for old and young leaders are not significantly different from each other (see the test statistics at the bottom of the table). Thus, it does not look as if the effect we estimate is heterogeneous by age as we would expect if there were an anticipation effect.

Another possible doubt on our interpretation of the results stems from the possibility that the effect of exits from office is driven mainly by powerful leaders with long tenure. This is partly fuelled by the observation that autocrats tend to serve longer terms in office than democrats. If this doubt were warranted, we should expect to see a stronger effect for leaders who have held office for a long time. To check for this, Column 2 in Table 4 shows the results when we condition on the length of tenure in office at the time of exit in each sub-sample. The results are similar to those with age, i.e., we find no significant difference in the reform propensity after the exit of leaders with long versus short tenure (again defined by the median tenure of the leaders in the random exit sample), although the point estimate for the exit of long-tenured leaders is slightly higher.

Reforms of other aspects of political institutions Another possible interpretation of our findings is that what we are really picking up generalized reforms towards greater democracy, rather than executive constraints as stressed by the theory. Indeed, as discussed at the end of Section 2, higher expected turnover may also trigger contemporaneous complementary reforms to other aspects of political institutions, especially those that effectively extend or secure the franchise. We now explore this issue empirically.

We define reforms of electoral institutions by drawing on different data sets. The first is once again the Polity IV data set, from which we extract a number of alternative measures that capture the extent to which the chief executive is elected through competitive multi-party elections (the “exrec” score), and whether this is done in a setting where no significant group or groups are regularly excluded from the political process (the “polcomp” score). A second indicator for the franchise is drawn from the data set used in Przeworski (2009), which provides data on suffrage rules for 187 countries from 1919 until 2000, based on detailed regional information. The third

indicator variable is from Cheibub et al (2010), based on Przeworski et al (2000), with data from 1946 until 2008 encompassing up to 199 countries, which seeks to classify political regimes, such that “for a regime to be democratic , both the executive office and the legislative body must be filled by elections”. More details on these data sets and the precise definitions of the franchise used in our regressions can be found in the Appendix.

The charge that the findings are about democratic institutions “in general” would imply that we should also find effects of leader deaths on changes on these dimensions. Our results on the relationship between these reforms and leader deaths are found in Tables 5 and 6. Table 5 utilizes four baseline measures in the Polity IV data concerning: (i) executive recruitment, (ii) political competition, (iii) competitive executive recruitment, and (iv) competitive participation. These capture different aspects of electoral institutions. We apply the same event-study method as in the examination of executive constraints to gauge if other reforms also follow random exits of political leaders from office. Strikingly, we find no evidence of reforms towards a more extensive franchise. If anything, the results suggest a setback for the franchise when random deaths occur in countries that already have an extensive franchise according to the Polity IV data (cf. the lowermost estimates in Columns 2 and 6).

Table 6 demonstrates that the absence of any effect in these electoral dimensions is not driven by the particular Polity IV variables or cutoffs that we have chosen. The estimates displayed in Columns 1-4 show that more generous definitions of the franchise in the Polity IV data do not change the results obtained in Table 5. Similarly, the results in Columns 5-8 indicate that no significant franchise reforms accompany the checks-and-balances reforms, if we instead use the variables obtained from the Cheibub et al (2010) and Przeworski (2009) data sets.

The results in Tables 5 and 6 strongly suggest that our theoretical mechanism is indeed empirically associated with a specific aspect of political institutions, namely strong executive constraints, rather than generalized political change. This makes it less likely that our results reflect a change in the way citizens are able to express democratic sentiments after a leader’s death, rather than the strategic motive for reform due to political instability suggested by our model.

4 Three case studies

To breathe life into these statistical results, we take a closer look at three particular cases: Spain in the second half of the 1970s, Taiwan in the late 1980s and the 1990s, and Nigeria in the late 1990s. In all three cases, an autocratic leader died in office and, following this event, the existing political elite – members of the Movimiento in Spain, of the Koumintang in Taiwan, and of the military in Nigeria – reformed political institutions by putting in place a stronger system of executive constraints.

Francisco Franco in Spain³ General Francisco Franco had governed Spain under unchecked authoritarian rule since the end of its Civil War. According to the Law of Succession from 1947, Spain would return to monarchy, but Franco would rule for life and himself appoint the next King. The non-elected Spanish pseudo-parliament, the Cortes, was at best an advisory body with no right to initiate legislation or oppose the government. It was dominated by the so-called National Movement – the Movimiento – which constituted the political elite. This movement comprised a collection of right-wing families and was the only recognized forum for political participation. Elections were not held during the Franco period.

Some modest reforms in 1966 separated the functions of head of state and head of government, but the authoritarian character of the regime remained intact. The hard-line Admiral Luis Carrero Blanco was appointed the first prime minister and was also widely expected to become Franco's successor, even though Franco had already appointed Juan Carlos as the next head of state in 1969. Juan Carlos, the son of Spain's legitimate monarch Juan of Borbón, was generally considered an insider of the ruling elite, by which he had been educated and groomed. As a quid pro quo for the appointment, Juan Carlos swore to be faithful to the National Movement. He publicly supported the regime and took part in ceremonial functions together with Franco.

From the late 1960s, the regime saw increasing challenges from an emerging political opposition, including regional-autonomy movements in the Basque country, Catalonia, and (less so) Galicia. In particular, ETA – the Basque revolutionary liberation army – started to systematically implement the theory of action/terror/action to further its independence cause; most significantly, ETA assassinated Carrero Blanco in December 1973. The regime countered the opposition with higher levels of repression. Meanwhile, the ailing Franco replaced Carrero Blanco as Prime Minister with another hardliner, Arias Navarro. Despite the mounting opposition, there was little to suggest an end to the unchecked authoritarian regime. For the postwar period up until the year of 1974, Polity IV sets the executive constraints variable for Spain at the bottom score of 1 (on a 1-7 scale).

Franco died of heart disease in November of 1975. Juan Carlos, having been proclaimed King of Spain by the Cortes, reaffirmed Navarro as prime minister. Navarro made vague suggestions in the direction of limited reforms, which was met with public demonstrations, strikes and increased regional terrorist acts, to which the regime responded with increased repression. Following discontent with Navarro's handling of the situation, the King asked for him to step down in the summer of 1976. He replaced Navarro with another leading figure from the Movimiento, its general secretary and former Franco minister, Adolfo Suárez González.

Despite expectations to the contrary, Suárez – with outright support of the King – saw the need for more far-reaching reforms, to avoid descent into a spiral of repression and violence. He soon announced plans for a comprehensive package of political reform, which would put in place a constitutional monarchy based on parliamentary democracy with a bicameral legislature. In the

³This subsection is based on Conversi (2002), Encyclopedia Britannica (2012), Linz (1990), Linz and Stepan (1996), Polity IV Country Reports (2010), Rosenfeld (1997), Share (1987), and Solsten and Meditz (1988).

fall of 1976, he managed to convince the Movimiento members of the Cortes that the only way forward was to accept this reform package, which effectively would dismantle the institution itself. Later in that fall, the Spanish people approved the plans with a majority of 88% in a national referendum. New laws permitting political parties, including the Communist Party, were passed by the Cortes in the spring of 1977, and general elections to a new legislature were held in the summer of the same year, using proportional representation.

In these elections, Suárez ran as the party leader of the newly founded UCD at the conservative-center of politics, which emerged as the largest party followed by the PSOE (the Socialist Party). The most polarized parties, the Alianza Popular (on the far right, assuming some of the heritage from the dissolved Movimiento) and the Communist Party, each polled at about 10%. The new parliament elected a seven-member constitutional committee representing all major parties to draft Spain's new constitution. The committee's proposal was amended and eventually passed by parliament in October 1978, and then approved in a general referendum in December of the same year. After this, Suárez dissolved the parliament and called for fresh elections under the new constitution.

A mere three years after Franco's death, Suárez and Juan Carlos, two members of the former ruling elite, had thus led the country through a remarkably peaceful democratic transition. In this process, Spain adopted a constitution with a number of horizontal checks on the executive, as well as provisions for regional autonomy. The new political regime has endured since those days – its resilience was tested most dramatically in a failed coup attempt in February 1981 by Colonel Antonio Tejero, who together with 200 armed members of the paramilitary police (the Guardia Civil) stormed into the Chamber of Deputies to interrupt its election of the new prime minister. From the year of 1978, Polity IV codes Spain's executive constraints with the top score of 7 (on the 1 to 7 scale).

Chiang Ching-kuo in Taiwan⁴ In its retreat from mainland China to Taiwan in 1949, the Koumintang (KMT) government had brought with it not only a large number of immigrants and a large bureaucracy, but also the official constitution of the Republic of China. Based on the political ideas of Sun Yat-sen, founder of the Koumintang (KMT) and the Republic, it had been put in place in 1946 as a compromise with the Communist Party. The constitution prescribed a peculiar form of parliamentary government encompassing an intricate system of checks and controls, where members of the National Assembly and the legislature (Legislative Yuan) with their, de jure, extensive powers were all to be elected in mainland China. The original mainland members of these two bodies came to hold lifelong tenure, guaranteeing the continued dominance of the KMT. As the mainlanders began to die off, however, the government began to hold supplemental elections in which a few Taiwanese residents were elected on each occasion.

De facto, however, large parts of the constitution were suspended as a result of the "Temporary

⁴This section is based on Constitution Writing and Conflict Resolution (1999), Dagne (2002), Encyclopedia Britannica (2012), Polity IV Country Reports (2010), USAID (2006), and US State Department (2011)

Provisions for the Duration of Mobilization to Crush the Communist Rebellion”, adopted in 1948. These provisions together with the martial law proclaimed in 1949 gave extensive powers to the president and his government. Chiang Kai-shek resumed the presidency in 1950 and kept it until his death in 1978. He was succeeded in office by his son Chiang Ching-kuo, who had previously served as minister of defence as well as prime minister. Martial law was to remain in force for 38 years. During this time, Taiwan was effectively ruled by a very powerful president and government – with support of the old KMT elite from the mainland and of the military – and executive constraints are coded as 2 or 3 (out of 7) in the Polity IV data set. In his very last years in office, Chiang put a political reform committee in place (in March 1986) and lifted martial law (in July 1987).

In January 1988, Chiang Ching-kuo died in office due to heart failure and hemorrhage. Chiang’s presidential powers and chairmanship of the KMT were assumed by his protégé, Vice-President Lee Teng-hui. As he assumed power, Lee – who, unlike his predecessors, was native Taiwanese – was troubled by the continued domination of former mainlanders in the KMT and political bodies, and by emerging opposition to the omnipotent KMT and popular demands for official separation and independence from mainland China. He embarked on a gradual process, leading the KMT down a path of political reform. This process began with an ad hoc National Affairs conference, which came to serve as a bit of an informal extra-constitutional assembly which could collect opinions. Only the National Assembly could legally revise the constitution, but lacked legitimacy to do so as it was dominated by former mainlanders and not representative of public opinion.

Under Lee’s leadership, Taiwan’s constitution was revised through a sequence of amendments (in 1991, 1992, 1994 and 1997). The first step in 1991 saw the National Assembly dominated by the old-guard of the KMT put an end to Temporary Provisions. It also decided on ten constitutional amendments. Half of these replaced the antiquated electoral rules – i.e., that members of the National Assembly and the Legislative Yuan be entirely elected in mainland China – with electoral rules for Taiwan alone, thus making these elected bodies much more representative. Another amendment gave the President the right to issue emergency orders, but only with ratification of the Legislative Yuan, thus putting in place some clear executive constraints.

After this first step, a general election was held in late 1991 to replace the whole existing National Assembly. The newly elected body, which was still dominated by the KMT, met in 1992 to discuss further amendments to the constitution and adopt 8 new articles. The most important amendment was to introduce direct, rather than indirect, election of the president by “the entire electorate in the free area of the Republic” (effective from the 1996 election), while maintaining the National Assembly’s right of recall. The other features included giving the National Assembly the power of consent for appointments of leaders and Grand Justices of the Judicial Yuan (the constitutional court). As a result of the 1991 and 1992 changes, the basic institutions for a semi-presidential system with clear checks on the president was now in place. From 1992 the executive constraint score in Polity IV is lifted to a 5.

Additional reforms in 1994 and 1997 would further enhance executive constraints by securing the independence of the members of the Judicial Yuan and introducing the right of the Legislative Yuan to remove the prime minister by a constructive vote of confidence. As per these changes, the Polity IV executive constraint score went up to a 6 in 1997 (and subsequently to a 7 in 2004). In this reform process, Taiwan also developed from a one-party state into a multi-party democracy, where the KMT was challenged by the Democratic Progressive Party and the New Party (branching off from the KMT).

Sani Abacha in Nigeria⁵ In the six first years after its independence from the United Kingdom in 1960, Nigeria had a fragile democracy formally based on political institutions similar to those of its former colonial power, the UK. In the wake of mounting ethnic and political tensions, the country went through several military coups in 1966, followed by the Nigeria-Biafra civil war. Over the next 33 years, it would be dominated by members of the military elite and was more or less constantly under autocratic rule, except for a few brief and failed attempts at democratic rule. Elections were held off and on, but as a rule these were manipulated by incumbent leaders.

In 1993, General Sani Abacha came to power through another military coup. Abacha came to lead Nigeria's perhaps most brutal regime, which used its powers to enrich Abacha's family and close allies, and met calls for civilian and democratic rule with large doses of repression. His government was the Provisional Ruling Council (PRC), an elite group of military leaders that ruled by decree. Under continued pressure to implement political reforms, in October 1995 Abacha adopted a three-year timetable for transition to civilian rule. He set up a new electoral commission to produce guidelines for the establishments of political parties, at the same time as he dissolved existing opposition groups. State assembly and gubernatorial sham elections were held in the spring of 1998, among the five parties sanctioned by the commission, and the UNCP – a proxy party for the Nigerian military – won large victories. The scene seemed staged for a pseudo election to extend Abacha's unchecked rule. Not only did the military express its support for Abacha, but all five state-recognized parties had nominated Abacha himself as the single candidate for the elections to be held in October 1998. Polity IV codes executive constraints during the Abacha period, up until 1997, at their lowest value of 1.

However, in June 1998 Abacha died of a sudden heart attack. The PRC, still ruling by decree, quickly appointed Chief of Staff Abdulsalami Abubakar as Abacha's successor. Abubakar was a bit of a military intellectual, but he was definitely a member of the military elite, having served also in the earlier regime of General Ibrahim Babangida. Upon his appointment, Abubakar declared that he would stick to Abacha's timetable for presidential elections. He and the PRC also released some political prisoners, including former General and President Olusegun Obasanjo.

To many's surprise, however, Abubakar went much farther. He recognized that long-term military rule and many human-rights infringements had seriously damaged the country's reputation

⁵This section is based on Constitution Writing and Conflict Resolution (1999), Dagne (2002), Encyclopedia Britannica (2012), Polity IV (2010), USAID (2006), and US State Department (2011).

and that the resulting international sanctions damaged the economy. In August and September, he maneuvered the PRC into undertaking far-reaching political reforms, which dissolved the five Abacha-controlled parties, abolished the compromised electoral commission replacing it with a new one, fired Abacha's cabinet, and abolished earlier decrees banning union activities and political strikes. Abubakar announced that he was appointing a committee to oversee extensive revisions to a proposal for a new constitution, to lay down the rules for the next civilian government. Eventually, the PRC adopted an extensive revision of the earlier 1979 constitution in early May 1999.

Abubakar also declared the earlier election results null and void and announced new national elections for February of 1999. One of the newly created parties, the People's Democratic Party, nominated Obasanjo as its presidential candidate and he went on to win the election by a large margin. According to the timetable, Obasanjo entered into office in late May 1999 under the newly adopted constitution. While the constitution still retains strong powers in the hands of the president, it provides for checks on those powers through a bicameral legislature that must approve appointments and may oppose government proposals. It also gives a more important role to the judiciary, especially the Supreme Court. Even though Nigeria has gone through difficult political times with ethnic and religious tensions and rivalry regarding oil revenues, the new political institutions have survived to this day. As of 1999, Polity IV codes the executive constraints variable at 5, meaning that "substantial limitations" on its government are in place.

5 Concluding Comments

Understanding the forces behind institutional change is a significant remaining challenge in political economics. While the prevalence of strong executive constraints has increased over time, we are not aware of any previous research which provides a specific hypothesis and tests of mechanism about a driver of such political change. We suggest that events which increase political instability make reform an attractive strategic option for incumbent groups, and exploit a specific source of exogenous variation to investigate this hypothesis empirically. We believe that the results are encouraging.

Extending the logic of our approach to all of history remains a challenge. At the very least, our theory provides a candidate explanation for patterns of continuity and change which is worthy of refinement and further testing. The three case studies do suggest that our theoretical approach has narrative value. We believe the approach might help partially to underpin the most obvious trends over the past two centuries. Since monarchies rely predominantly on life-time tenure, they are particularly vulnerable to the kind of random exits that we study in this paper. Even established monarchies in history, like Britain, experienced several instances of contested succession following the death of a ruler. Moreover, autocracies generally find it difficult to institutionalize transitions of power between leaders.⁶ The resulting instability could also help explain the general trend

⁶See the discussions in Tullock (1987) and Wintrobe (1998).

towards cohesive institutions that is so apparent from Figure 1. However, China provides an interesting counter-example. Communist Party rule appears to protect the ruling elite from the political instability that leadership change might engender, and executive constraints remain weak with few signs of reform on the horizon. The logic of our model suggests that this situation is unlikely to change until Communist Party rule becomes seriously contested.

But we are certainly not claiming that a model as simple as the one laid out here can give more than a partial insight into how and why political institutions have changed. A more complete treatment would also have to deal with institutions that bear directly on leadership turnover. By and large, franchise extensions and more open political competition are a source of instability, which makes it more difficult for small elite groups to capture and maintain power. It would be fruitful to jointly address the questions of what triggers change in the electoral institutions that shape transitions in power, and change in the political and judicial institutions that control how power is used once acquired. Specifically, one might address – theoretically and empirically – questions about the sequencing of, and complementarities between, these different aspects of political change.

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Appendix

Proof of Proposition 1 As a provisional step, it is useful to define the indirect utility from public and private goods for the incumbent elite and other groups:

$$v^J(\theta) = \alpha \hat{g}(\theta) + y + \beta^J(\theta)(T - \hat{g}(\theta)) \text{ for } J \in \{I, O^J\} .$$

where $\beta^I(\theta) = \left\lceil \frac{1}{\theta + (1-\theta)e} \right\rceil$ and $\beta^O(\theta) = \left\lceil \frac{\theta}{\theta + (1-\theta)e} \right\rceil$. Using these indirect utilities, we introduce value functions depending on whether a group is an incumbent or opposition group. In recursive notation, i.e., θ_t, γ_t and θ_{t+1} are denoted by θ, γ and θ' , we can write:

$$V^I(\theta, \gamma) = v^I(\theta) + \delta \max_{\theta' \in [0,1]} \{ (1-\gamma) \bar{V}^I(\theta') + \gamma \bar{V}^O(\theta') \} ,$$

where $\bar{V}^J(\theta')$ is the expected value of entering period $t+1$ with institutions θ' . Denoting the solution to the institutional-choice problem by $\hat{\theta}(\gamma)$, we have:

$$\bar{V}^I(\theta) = v^I(\theta) + \delta E \left\{ (1-\gamma) V^I(\hat{\theta}(\gamma), \gamma) + \gamma V^O(\hat{\theta}(\gamma), \gamma) \right\}$$

and

$$\bar{V}^O(\theta) = v^O(\theta) + \delta E \left\{ \frac{\gamma}{\mathcal{J}} V^I(\hat{\theta}(\gamma), \gamma) + \left(1 - \frac{\gamma}{\mathcal{J}}\right) V^O(\hat{\theta}(\gamma), \gamma) \right\} ,$$

where the expectation is taken over future possible values of γ .

To prove Proposition 1, we want to solve:

$$\hat{\theta}(\gamma) = \arg \max_{\theta \in [0,1]} \{ (1-\gamma) \bar{V}^I(\theta) + \gamma \bar{V}^O(\theta) \} .$$

Using the envelope theorem:

$$\frac{\partial [(1-\gamma) \bar{V}^I(\theta) + \gamma \bar{V}^O(\theta)]}{\partial \theta} = \begin{cases} 0 & \text{for } \theta \geq \frac{1-\alpha e}{\alpha(1-e)} \\ (1-\gamma) v_\theta^I(\theta) + \gamma v_\theta^O(\theta) & \text{otherwise .} \end{cases}$$

Moreover, $(1-\gamma) v_{\theta\theta}^I(\theta) + \gamma v_{\theta\theta}^O(\theta) > 0$ so if $e \leq (1-\gamma)$, we only need to compare $\theta = 0$ and $\theta = \frac{1-\alpha e}{\alpha(1-e)}$. Moreover, given the recursive structure, we have

$$(1-\gamma) \bar{V}^I(0) + \gamma \bar{V}^O(0) \gtrless (1-\gamma) \bar{V}^I\left(\frac{1-\alpha e}{\alpha(1-e)}\right) + \gamma \bar{V}^O\left(\frac{1-\alpha e}{\alpha(1-e)}\right)$$

as

$$\frac{T(1-\gamma)}{e} \gtrless \alpha T .$$

Solving this condition, gives the inequality stated in Proposition 1. Suppose instead that $e > (1-\gamma)$, then $(1-\gamma) v_\theta^I(\theta) + \gamma v_\theta^O(\theta) > 0$. But this implies that $\gamma > (1-\alpha e)$ so that

$$(1-\gamma) v^I(\theta) + \gamma v^O(\theta) < \alpha T \text{ for all } \theta \in \left[0, \frac{1-\alpha e}{\alpha(1-e)}\right) .$$

Using the recursive structure, we get

$$\begin{aligned} & (1 - \gamma) \bar{V}^I \left(\frac{1 - \alpha e}{\alpha(1 - e)} \right) + \gamma \bar{V}^O \left(\frac{1 - \alpha e}{\alpha(1 - e)} \right) \\ & > (1 - \gamma) \bar{V}^I(\theta) + \gamma \bar{V}^O(\theta) \end{aligned}$$

for all $\theta \in \left[0, \frac{1 - \alpha e}{\alpha(1 - e)}\right)$. Thus, $\hat{\theta}(\gamma) = \frac{1 - \alpha e}{\alpha(1 - e)}$, as required.

Data sources and definitions for franchise reforms To get a comparable sample across countries and time to the core results, we first look at two summary indexes in the Polity IV data for executive recruitment and political competition, called "exrec" and "polcomp". The Executive Recruitment index has scores between 1 and 8. According to the Polity IV codebook, it is only for a score of 8 that the “chief executive (de facto head of government) is chosen through competitive elections matching two or more candidates from at least two major parties ... the electoral process is transparent and its outcomes are institutionally uncertain” – see Marshall and Jaggers (2010, pp. 64). We therefore define a baseline binary variable for enfranchised institutions, which is one if the "exrec" score is equal to 8 and zero otherwise. Using this baseline variable, our panel has 154 reforms since 1875. But we also try different, less demanding cutoff values.

The Political Competition score is coded between 1 and 10. By the codebook, only a score of 10 captures “Relatively stable and enduring political groups regularly compete for political influence with little use of coercion. No significant or substantial groups, issues, or types of conventional political action are regularly excluded from the political process.” – see Marshall and Jaggers (2010, pp. 85). Following this coding, we define an alternative baseline binary variable for enfranchised institutions, which is equal to one if the "polcomp" score is equal to 10 and zero otherwise. This way, we obtain 50 reforms since 1875. Again, we try alternative cutoff scores.

In addition, we try to identify the individual components of the combined "exrec" and "polcomp" indexes that best capture an extended franchise. Competitive Executive Recruitment ("xrcomp" in Polity IV) is coded between 1 and 3. A score of 3 captures that “Chief executives are typically chosen in or through competitive elections matching two or more major parties or candidates” – see Marshall and Jaggers (2010, pp. 22). In those cases, we set a binary variable for enfranchised institutions equal to one. This gives 157 reforms in our sample period. For Competitive Participation ("parcomp" in Polity IV), the coded score lies between 1 and 5. A score of 5 means that “relatively stable and enduring, secular political groups ... regularly compete for political influence at the national level ... competition among groups seldom involves coercion or disruption” – see Marshall and Jaggers (2010, pp. 27). For this score, we set a binary variable for enfranchised institutions equal to one, obtaining 56 reforms in our panel.

Since these alternative Polity IV variables do not perfectly capture extensions of the franchise, we also exploit data from other sources. Przeworski (2009) provides data on suffrage rules for 187 countries from 1919 until 2000, which relies on detailed regional information. A necessary condition for a franchise extension is that elections are held at least once and Przeworski (2009) dates the changes of suffrage rules by the time of the first election under the new rules (not when electoral law was passed). He maps the suffrage (for males) onto a seven-category scale, where a level of 1 means that the franchise permits only estate representation, while a level of 7 means that it excludes only individuals below some minimum age, possibly combined with a residence requirement. Based on these data, we construct a binary indicator which is equal to one when a country has reached level 7 of franchise extension and zero otherwise.

Finally, we use the data provided by Cheibub et al (2010), which is based on Przeworski et al

(2000). These data are available from 1946 until 2008 and encompass up to 199 countries. We use their indicator variable, which seeks to define “democracies as regimes in which governmental offices are filled as a consequence of contested elections...for a regime to be democratic , both the executive office and the legislative body must be filled by elections”. Specifically, a regime is classified as an electoral democracy if it fulfills four separate criteria: (i) the chief executive must be chosen by popular election or by a body that was itself popularly elected, (ii) the legislature must be popularly elected, (iii) more than one party must compete in the elections, (iv) an alternation in power under electoral rules identical to the ones that brought the incumbent to office must have taken place

Prevalence of high executive constraints

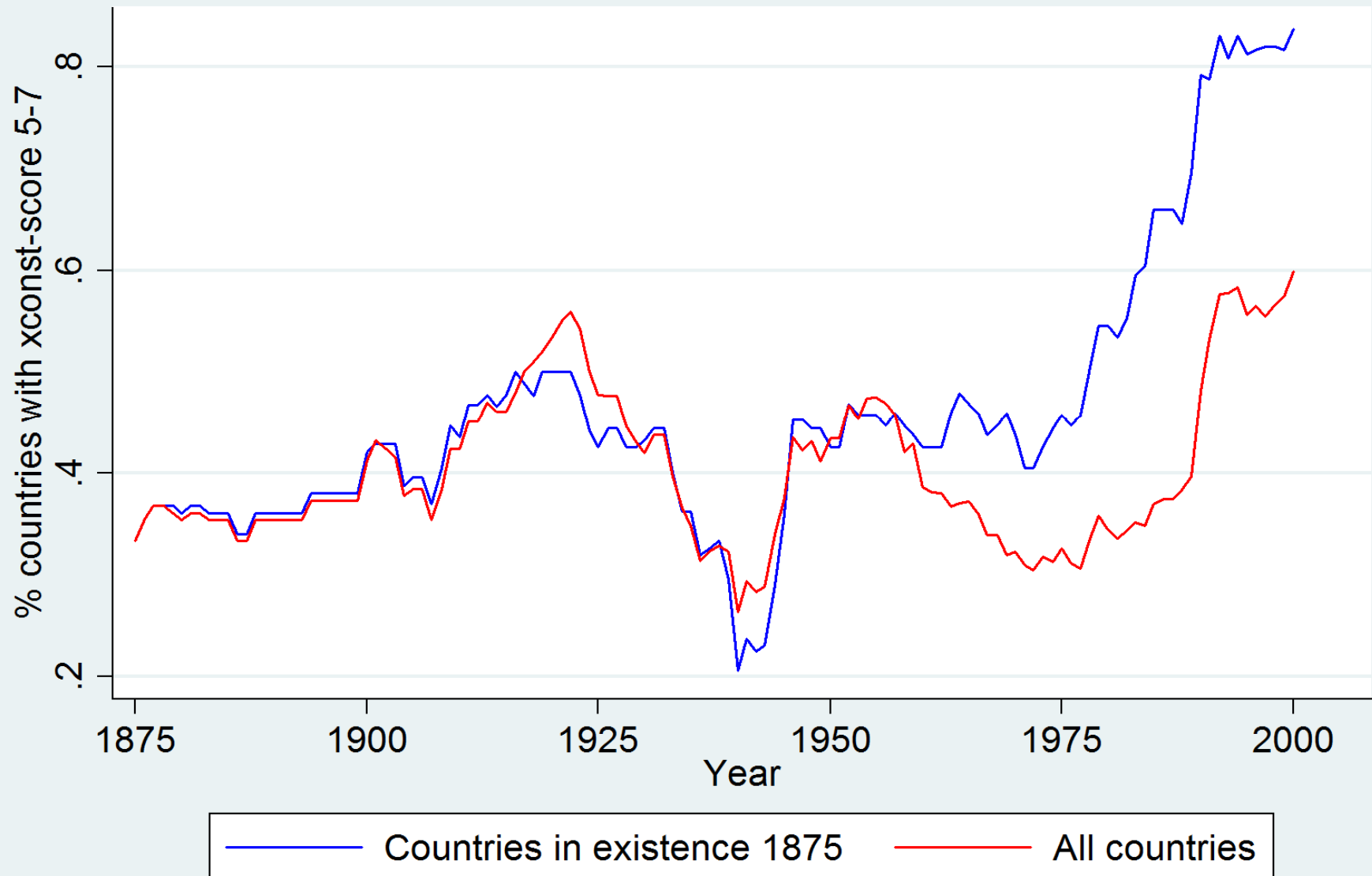


Figure 1 - Cohesive institutions worldwide, 1874-2004

Figure 2 Number of Random Transitions and Number of Countries, 1874-2004

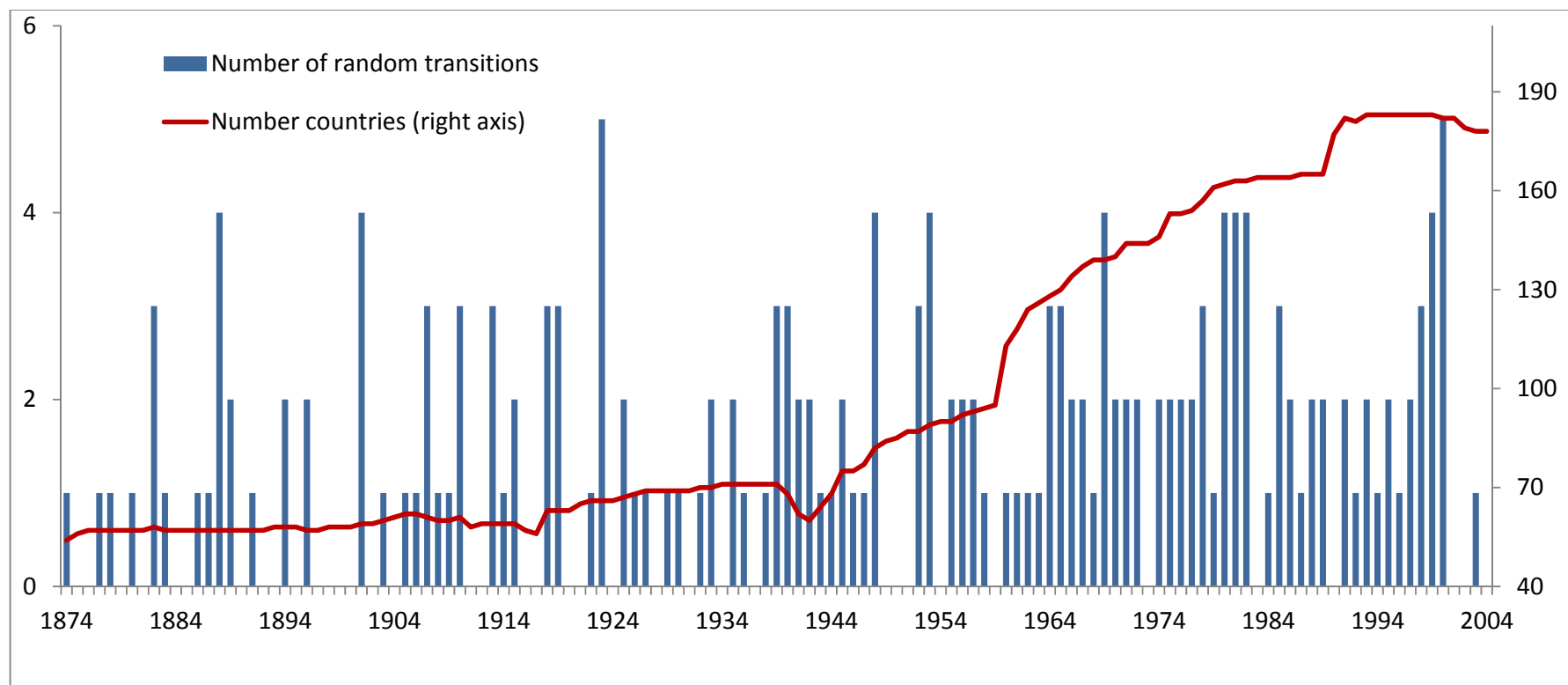
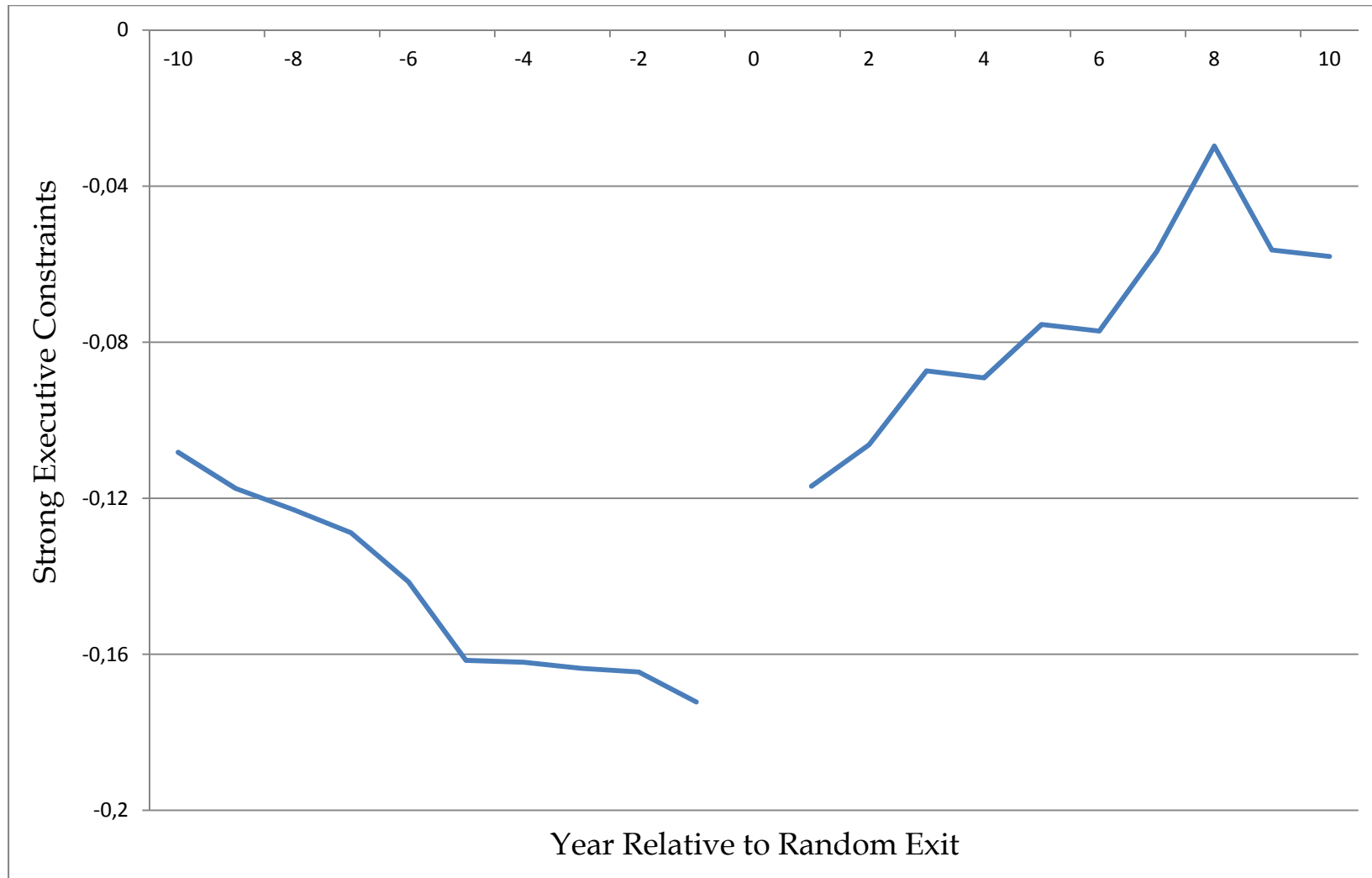


Figure 3 – Executive Constraints before and after Random Leader Exits



Note: The figure shows the country-average of the strong executive constraints binary variable, conditional on country and year fixed effects, ten years before and ten years after random leader exits from office in countries with weak executive constraints.

Table 1 – Examples of Random Exits Due to Leader Death or Illness in Office

Country	Leader name	Year of exit from power	Reason for exit from power	Cause of death or illness	Overlap with sample in Jones-Olken (2005)
Cote d'Ivoire	Houphouet-Boigny	1993	death	cancer of prostate	YES
Croatia	Tudjman	1999	death	heart disease	NO
Cyprus	Makarios	1977	death	heart disease	NO
Czechoslovakia	Zapotocky	1957	death	heart disease	NO
Denmark	Stauning	1942	death	not specified	no
Denmark	Hansen	1960	death	cancer	YES
Dominica	Douglas Roosevelt	2000	death	heart disease	YES
Ecuador	Mosquera Narvaez	1939	death	renal failure	no
Ecuador	Roldos Aquilers	1981	death	killed in accident	YES
Egypt	Fuad I	1936	death	heart disease	no
Egypt	Nasser	1970	death	heart disease	YES
El Salvador	C. Melendez	1918	illness	cancer	no
Ethiopia	Menelek II	1910	death	syphilis	no
Ethiopia	Judith (Zanditu)	1930	death	pneumonia	no
Finland	Svinhufud	1918	illness	cancer	no
Finland	Kallio	1940	illness	heart disease	no
Finland	Paasikivi	1956	illness/ death	not specified	NO
Finland	Kekkonen	1981	illness	circulatory problems	NO
France	Waldeck-Rousseau	1901	illness	complications during surgery	no

Notes: In the last column, “NO” denote leaders that are not in the Jones-Olken sample despite sample overlap, while “no” denote leaders that are not in the Jones-Olken sample because of sample-period differences.

Table 2 – Random Exits, Turnover, and Institutional Reform, 1875-2004: Basic Results

	Turnover	Turnover	Executive Constraints	Executive Constraints
POST-PRE Full sample	0.032 (0.113)		0.031 (0.138)	
POST-PRE Noncohesive institutions		0.061 (0.012)		0.064 (0.018)
POST-PRE Cohesive institutions		- 0.063 (0.100)		- 0.040 (0.214)
Number of events	183	104 60	164	104 60

Notes: Dependent variable is based on binary indicator, measured by turnover or executive constraints, as indicated. Each cell shows the difference of regression coefficients on dummies for five years after and before each random exit. Test statistic in brackets is *p*-value of an *F*-test for the equality of the pre- and post-transition dummies. The underlying standard errors are robust and clustered at the country level.

Table 3 – Random Exits, Turnover, and Institutional Reform, 1875-2004: Robustness

	Turnover	Turnover	Executive Constraints	Executive Constraints	Turnover	Turnover	Executive Constraints	Executive Constraints
	10 years	10 years	10 years	10 years	Placebo 5 years back	Placebo 5 years back	Placebo 5 years back	Placebo 5 years back
POST-PRE Full sample	0.041 (0.023)		0.042 (0.085)		- 0.053 (0.019)		0.007 (0.658)	
POST-PRE Noncohesive institutions		0.059 (0.020)		0.071 (0.026)		- 0.044 (0.049)		0.026 (0.239)
POST-PRE Cohesive institutions		-0.003 (0.905)		- 0.021 (0.573)		- 0.113 (0.059)		- 0.054 (0.060)
Number of events	165	95 50	145	95 50	173	105 50	157	106 51

Notes: Dependent variable is a binary indicator, measuring turnover or executive constraints, as indicated. Each cell shows the difference of regression coefficients on dummies for 10 if indicated, else 5 years after and before each random exit. Test statistic in brackets is *p*-value of an *F*-test for the equality of the pre- and post-transition dummies. The underlying standard errors are robust and clustered at the country level.

Table 4 – Random Exits and Institutional Reform, 1875-2004: Additional results

	Executive Constraints $x=1$ old leader	Executive Constraints $x=1$ long tenure
POST-PRE $x=1$ Noncohesive institutions	0.077 (0.042)	0.076 (0.019)
POST-PRE $x=0$ Noncohesive institutions	0.054 (0.118)	0.034 (0.319)
POST-PRE $x=1$ Cohesive institutions	- 0.023 (0.613)	- 0.056 (0.182)
POST-PRE $x=0$ Cohesive institutions	- 0.059 (0.217)	- 0.012 (0.822)
Test Statistics $(x=1) - (x=0) = 0$	0.493 0.691	0.315 0.498
Number of events	49 55 31 29	76 39 28 21

Notes: Dependent variable is based on binary variable for strong executive constraints. Each cell shows the difference of regression coefficients on dummies five years after and before each random exit. Test statistic in brackets is p -value of an F -test for the equality of the pre- and post-transition dummies. Test Statistics $(x=1) - (x=0) = 0$ refer to p -value of the F -test that $(\text{POST-PRE} | x=1) - (\text{POST-PRE} | x=0) = 0$, for noncohesive and cohesive institutions, respectively, where meaning of $x=1$ is indicated at top of the column. The underlying standard errors are robust and clustered at the country level.

Table 5 – Random Exits, Executive Recruitment and Political Competition Reforms, 1875-2004

	Executive Recruitment	Executive Recruitment	Political Competition	Political Competition	Competitive Executive Recruitment	Competitive Executive Recruitment	Competitive Participation	Competitive Participation
POST-PRE Full sample	- 0.003 (0.809)		- 0.013 (0.298)		- 0.000 (0.970)		- 0.011 (0.371)	
POST-PRE Limited franchise institutions		0.012 (0.395)		- 0.001 (0.919)		0.020 (0.250)		0.004 (0.740)
POST-PRE Extended franchise institutions		- 0.056 (0.037)		- 0.065 (0.173)		- 0.054 (0.038)		- 0.065 (0.174)
Number of events	161	107 54	162	133 29	164	110 54	164	135 29

Notes: Dependent variable is based on binary indicator, associated with indexes of executive recruitment, political competition, competitive executive recruitment, or competitiveness participation, as indicated. Each cell shows the difference of regression coefficients on dummies for five years after and before each random exit. Test statistic in brackets is *p*-value of an *F*-test for the equality of the pre- and post-transition dummies. The underlying standard errors are robust and clustered at the country level.

Table 6 – Random Exits and Franchise Reforms, 1875-2004

	Executive Recruitment >4	Executive Recruitment >4	Political Competition >5	Political Competition >5	Cheibub et al	Cheibub et al	Przeworski Franchise >6	Przeworski Franchise >6
POST-PRE Full sample	- 0.010 (0.606)		- 0.012 (0.546)		0.027 (0.201)		-0.023 (0.133)	
POST-PRE Limited franchise institutions		0.034 (0.164)		- 0.006 (0.811)		0.016 (0.530)		0.070 (0.195)
POST-PRE Extended franchise institutions		- 0.090 (0.003)		- 0.041 (0.144)		0.240 (0.361)		- 0.027 (0.014)
Number of events	161	98 63	162	81 81	102	67 35	146	27 119

Notes: Dependent variable is based on binary indicator, measured by indexes of executive recruitment, political competition, or the indexes defined by Cheibub et al (2010) and Przeworski (2009), as indicated. Each cell shows the difference of regression coefficients on dummies for five years after and before each random exit. Test statistic in brackets is *p*-value of an *F*-test for the equality of the pre- and post-transition dummies. The underlying standard errors are robust and clustered at the country level.