

Measuring autocratic regime stability

Research and Politics
January-March 2016: 1–7
© The Author(s) 2016
DOI: 10.1177/2053168015626606
rap.sagepub.com
 SAGE

Joseph Wright¹ and Daehee Bak²

Abstract

Researchers measure regime stability in autocratic contexts using a variety of data sources that capture distinct concepts. Often this research uses concepts developed for the study of democratic politics, such as leadership change or institutionalized authority, to construct measures of regime breakdown in non-democratic contexts. This article assesses whether the measure a researcher chooses influences the results they obtain by examining data on executive leadership, political authority, and autocratic regimes. We illustrate the conceptual differences between these variables by extending recent studies in the literature on the political consequences of non-tax revenue and unearned foreign income.

Keywords

Political regimes, dictatorships, political instability

Introduction

In 1979 long-standing dictatorships in Iran and Nicaragua collapsed as revolutionaries forced dictators from power. Not only did the ruling families leave power, flee the country, and face the threat of assassination, but the landed business elites and families that supported the Somozas were left powerless while in Iran a secular, foreign-backed monarchy was replaced by a clerical regime. These leadership transitions are fundamentally different than democratic transitions, since neither the Sandinista government nor the clerical regime in Iran were democracies. Leadership change in both cases also differed from irregular leadership transitions that simply reshuffle the executive atop a dictatorship without altering the group that holds power, such as the replacement of one member of the Argentine military junta with another in the early 1980s. Further, leadership changes in Iran and Nicaragua in 1979 differ from regularized leadership transitions that aid autocratic survival, such as those in Mexico during eight decades of rule by the Revolutionary Institutional Party (PRI).

These examples illustrate that institutional transformation and nominal leadership change do not necessarily coincide with autocratic regime breakdown, nor does the overthrow of ruling elites always lead to democratic transition. In this article, we examine several measures that capture distinct concepts but have all been used as proxies for autocratic regime (in)stability in applied research. Specifically, we focus on “who has defacto power” rather

than the numerous measures of violent instability, such as civil war, terrorism, and coups.

In many research applications that focus on dictatorships, we want to understand who has the defacto power to select leaders and choose policy. In democracies, leaders are selected in elections and power over policy decisions is exercised by individuals constrained both by formal institutions and the individuals, groups, and organizations that elect them. In many dictatorships, in contrast, leaders are not selected in contested elections and the informal rules for governing can be as important as formal constitutional rules.

Geddes et al. (2014: hereafter GWF) propose a definition of *autocratic regime* as a set of formal and informal rules for choosing leaders and policies. Informal rules are included because autocracies often hide the rules that shape and constrain political choices, even though dictatorship routinely coexists with many of the formal institutions seen in democracies. The informal rule central to distinguishing one autocratic regime from another is the rule that identifies the group from which leaders can be chosen and determines who influences leadership choice and policy.

¹Department of Political Science, Pennsylvania State University, USA

²Department of Political Science, Texas Tech University, USA

Corresponding author:

Joseph Wright, Department of Political Science, Pennsylvania State University, 203 Pond Lab, University Park, PA 16802, USA.

Email: josephGwright@gmail.com



Svolik (2012: 21) also provides data that record ruling-coalition spells, which he defines as the “uninterrupted succession in office of politically affiliated” leaders who come from the same party, family, or military junta. Conceptually, ruling-coalitions closely match the GWF definition of authoritarian regimes since both focus on “who holds defacto power”. Indeed, for observations included in both the Svolik and GWF data sets—and setting aside minor differences in coding the exact calendar date of autocratic breakdown events—we find that 97% of GWF regime breakdown country-years entail the ruling-coalition ending, while 86% of country-years with ruling-coalition changes also entail autocratic regime breakdown, as coded by GWF.

Measuring autocratic regime stability correctly has important implications for how we understand the process of regime collapse and democratization as well as for our understanding of conflict behavior in non-democratic settings. Not only are some dictatorships more fragile than others, but the probability that democracy emerges after regime failure varies substantially across different dictatorships. Further, a growing international relations literature argues that conflict behavior in dictatorships differs substantially and attributes these differences to accountability mechanisms in autocratic regimes (Chiozza and Goemans, 2003; Debs and Goemans, 2010; Weeks, 2014). However, we must understand whether the nominal leader, the level of democraticness, or the regime coalition is key to holding power in dictatorships to explain how accountability works in non-democratic contexts.

We discuss how several additional measures of autocratic regime instability substantively differ from data that measure who has defacto power. We then report several extensions of published findings to illustrate how choosing different measures of autocratic regime instability can alter empirical findings. In doing so, we focus on the GWF measure of autocratic regime breakdown, and leave analysis that employs the Svolik data for the Online Appendix. Unsurprisingly, given their overlap, using either the GWF regime breakdown data or the Svolik ruling-coalition data yields substantively similar findings.

Measuring autocratic regime change

Polity—Durable failure. While Polity’s 21-point ordinal scale is frequently used as a proxy for the level of democracy (Polity IV, 2010), it does not attempt to identify *regime change*, at least as defined by a change in the basic rules for how leaders and policies are chosen and in the identity of the group from which leaders can come (Geddes et al., 2014). For example, the Polity score does not capture regime collapse events such as the ouster of Mobutu’s regime in the former Zaire in 1997 or the 1958 coup in Iraq that upended a Western-backed monarchy and established military rule aligned with Egypt’s Nasser. These regime

change events are not treated as large changes in Polity because the level of “democraticness” does not change.

The Polity *Durable* variable, which has been used as a measure of political change in dictatorships, codes changes of three points or more (over three years) in the combined Polity score as instances of “political change”. It also identifies the end of a *transition period*—“defined by the lack of stable political institutions”—and *interregnum periods*—defined as the “collapse of centralized political authority”—as instances of political change.

While the *Durable* variable captures changes in institutionalized authority patterns, it also groups together theoretically distinct types of political change in dictatorships. For example, it identifies Iran’s 1979 revolution, Mobutu’s 1992 legalization of opposition parties in the former Zaire, and Chile’s 1989 democratic transition as identical events because the combined Polity score in each case increases by more than 3 points. In one case, the *Durable* failure is associated with a dictatorship remaining in power (Zaire 1992); in another it reflects one dictatorship replacing another (Iran 1979); and in a third it is associated with a regime collapse that resulted in democratic transition (Chile 1989). Further, because it is based on the Polity index, *Durable* failure misses some autocratic regime collapses entirely, such as the ouster of Tolbert’s regime in Liberia in 1980.

These examples are not isolated cases. We categorize *Durable* failures according to the type of political change they capture, as coded by Geddes et al. (2014):¹ democratic transitions (e.g. Chile 1989); institutional liberalization during the lifetime of an autocratic (e.g. Gabon 1991–92) or democratic regime (e.g. Romania 1996); autocratic transitions (Iran 1979) and consolidation (Iran 1980–81); and institutional de-liberalization during the lifetime of a regime (e.g. Burkina Faso 1969–70). To further aid comparison across data sets, we also categorize democratic failures, which are transitions from a democratic to an autocratic regime (e.g. the 1973 coup in Chile).

Figure 1 shows that 28% of Polity *Durable* failure years are democratic transitions, while roughly 10% are transitions from democracy to autocracy and another 17% are transitions from one autocratic regime to another. Yet nearly half of all *Durable* failures correspond to institutional changes that occur while the incumbent group of elite retains power: 27% reflect institutional liberalization and 17% reflect de-liberalization. Thus a substantial share of Polity *Durable* failures do not entail ruling group collapses.

Archigos—Leader failure. A second measure of autocratic breakdown is leader failure that identifies when the nominal chief executive of a country leaves power (Goemans et al., 2009). The Archigos database provides information on how leaders enter and leave office, including whether these events occur in a regular or irregular fashion. This information can be employed to measure a number of important concepts related to autocratic instability. For

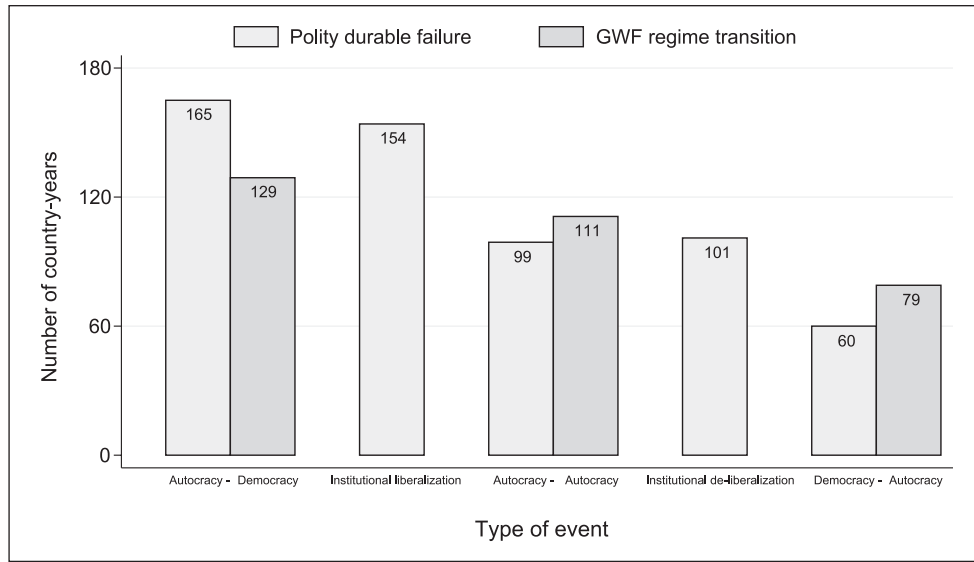


Figure 1. Political change events in Polity's Durable failure, 1946–2008. Sources: Polity IV (2010) and Geddes et al. (2014).

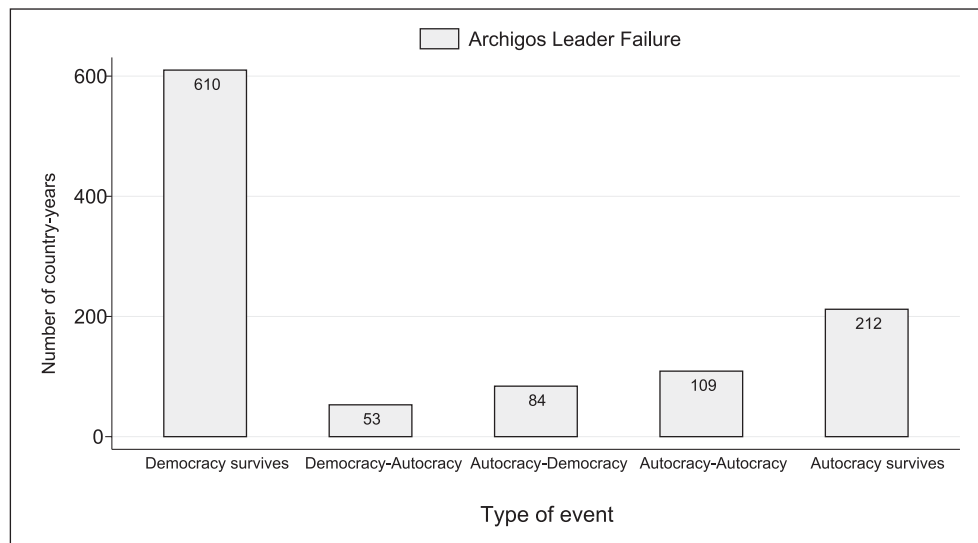


Figure 2. Archigos leader failure by democratic regime collapse and autocratic regime collapse, 1946–2004. Sources: Goemans et al. (2009) and Geddes et al. (2014).

example, users can distinguish between natural death, regular and constitutional leader transitions, and irregular leadership changes. Moreover, combined with datasets that contain information on democratic transitions, researchers can measure both democratic transition and irregular leadership change during autocratic periods (e.g. Rivera Celestino and Gleditsch, 2013; Wallace, 2013). However, grouping all leader exits together is problematic because events that reshuffle leaders from the same ruling group are still counted as irregular transitions, even though the incumbent regime holds power. For example, the coup that brought General Rios Montt to power in Guatemala in 1982 and the coup that ousted him a year later both replaced one

senior general with another. Similarly, in 1982 the Argentine junta ousted General Galtieri, replacing one senior officer with another.

Figure 2 shows how all types of Archigos leader exit years fall into five distinct categories when paired with regime data from GWF. The far left bar indicates that there are 610 democratic country-years in which Archigos records a leader exit but GWF democracies survive. The far right bar indicates that there are over 200 autocratic country-years in which Archigos records a leader exit but GWF code the incumbent autocratic regime surviving. Finally, the three middle bars record the number of country-years in which leader exit and regime collapse coincide. This

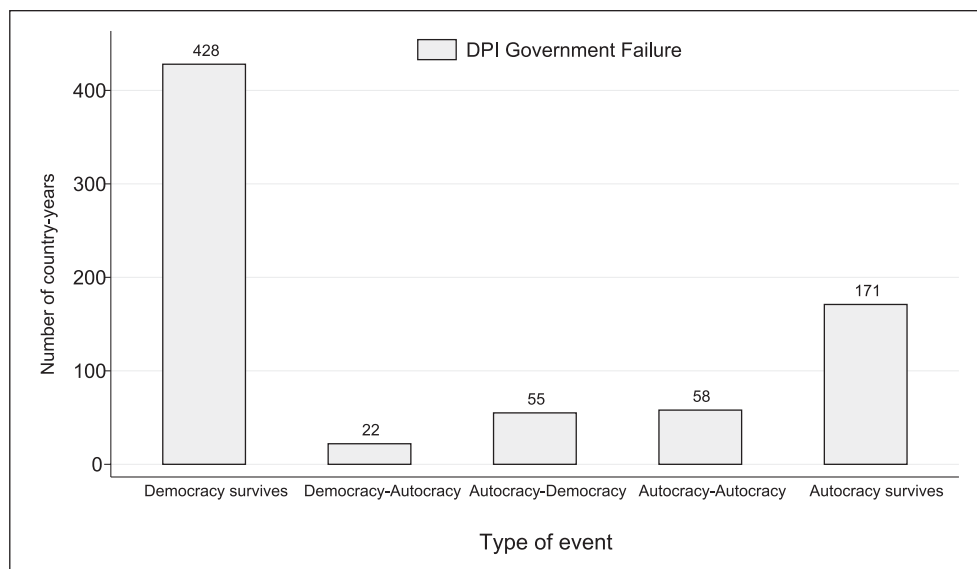


Figure 3. DPI government turnover by democratic regime collapse and autocratic regime collapse, 1974–2008. Sources: Beck et al. (2001) and Geddes et al. (2014).

suggests that the majority of leader exits in Archigos occur when the incumbent regime survives; over 50% of all leadership exits under autocratic rule occur when the incumbent autocratic regime remains in power.

DPI— Government turnover. A third measure of autocratic breakdown attempts to capture the concept of ruling government survival, using information from the Database of Political Institution’s (DPI) “years in office” variable. This information takes a country-year format in which each observation is coded as either “failure” or “no failure” based on the duration of executive power. We refer to this variable as *DPI failure*.

The concept of executive survival—which some scholars call “government turnover”—captures executive leadership changes that occur both when autocratic regimes collapse and when they survive. This distinction is not trivial because “government turnover” in many autocracies takes place when one leader replaces another via an institutionalized mechanism for rotating the leadership of the regime. When these events do not coincide with regime collapse or destabilization, they are often successful maneuvers by incumbent elites to prolong their rule and should not be interpreted as the loss of regime power.

In Mexico, the long dominant Revolutionary Institutional Party (PRI) ruled for more than 80 years, only losing its monopoly on power when an opposition candidate won the Presidency in 2000. During the last half-century of its rule, the PRI selected a new leader every six years. These leadership changes constitute “government turnover” but they are an unreliable measure of autocratic regime instability because they conflate the leader and the regime in an autocracy where regular selection of new leaders was a feature of the regime that *enhanced* its survival (Magaloni, 2006).

Similarly, the natural death of a leader may not threaten the regime with collapse. Monarchies, for example, have established mechanisms for leadership succession within the royal family. Because these dictatorships often have a dynastic political structure that institutionalizes the selection of new leaders without jeopardizing the regime itself, they tend to be relatively resilient (Herb, 1999: 40–49; Menaldo, 2012: 709). In Saudi Arabia, the monarchy continues in power despite “government turnover” that occurred after King Khalid died of a heart attack in 1982 and after King Fahd succumbed to pneumonia in 2005. Even the assassination of King Faisal in 1975 by his half-brother’s son “did not reflect any wider split within the royal family and did not disturb the equilibrium of the institution” (Herb, 1999: 99). Yet the *DPI failure* variable treats these natural deaths as the same type of autocratic failure events as the coups and revolutions that ousted monarchies in Afghanistan (1973), Egypt (1952), Iran (1979), Iraq (1958), and Yemen (1962).

To illustrate the extent to which government turnover in autocracies corresponds to autocratic regime collapse, Figure 3 shows how DPI government turnover can be grouped into five categories according to the regime status defined by GWF. The far left bar shows that there are over 400 country-years in which DPI records a government turnover but democracies do not fail. The far right bar indicates that there are 170 country-years in which a DPI government turnover occurs while the dictatorship survives. The three bars in the middle show that the remaining cases of DPI government turnover correspond to one of the three types of GWF regime failure: democracy to autocracy, autocracy to democracy, or one type of autocracy to another. In sum, over 80 percent of DPI government turnovers do not entail regime collapse. When the incumbent regime is

autocratic, over 60 percent of government turnovers occur while the regime itself survives.

Does the measure of autocratic breakdown matter?

Scholars have found that autocratic regimes can use resources such as foreign aid or oil rents to reward members of their support coalition, co-opt potential opponents, and provide public goods to appease revolutionary threats (Ahmed, 2012; Bueno de Mesquita and Smith, 2010; Morrison, 2009; Smith, 2008). Accordingly, studies find that non-tax revenues stabilize autocracies.² In this section, we examine whether the measure of autocratic regime breakdown matters by reproducing three studies on non-tax (or “un-earned”) revenue and political survival (Ahmed, 2012; Bueno de Mesquita and Smith, 2010; Morrison, 2009).³

Non-tax revenue and Durable failure. Morrison (2009) argues that non-tax revenue stabilizes democracies and dictatorships, using *Durable* failure as the dependent variable in democratic and autocratic contexts. The dashed line in Figure 4 shows the result from the verification model, confirming the negative correlation between non-tax revenue and political change. However, the negative estimate is stronger for the risk of democratic transition, and the estimate for autocratic transitions and consolidation, while positive, is substantively small.

These findings suggest that the main empirical result in Morrison’s analysis pertains to democratic transition and democratic failure events but not to autocratic transition and consolidation events. That is, non-tax revenue may reduce the risk of transitions to and from democracy but has little influence on the risk of transitions from one autocratic regime to another. These results fit the theoretical expectations in Morrison’s (2007) model, which follow from the threat of democratic revolution in autocracies and the threat of coups that topple democracies. Ample non-tax revenue allows dictators, according to this argument, to distribute resources to potential revolutionaries to prevent revolt. Indeed, there is no outcome associated with autocracy-to-autocracy transitions in either Morrison’s game or the Acemoglu and Robinson (2006) model upon which his analysis builds. In this class of theoretical models, the only risk to an autocratic regime arises from would-be democrats not from rebels or revolutionaries who would topple a dictatorship and replace it with another. So while *Durable* codes a number of distinct types of autocratic regime collapse, only some of them are theoretically relevant in this study. Using *Durable* failure as a proxy for autocratic breakdown in this application only adds noise to the model but does not alter the main result, which rests on the correlation between non-tax revenue and democratic transitions.

Non-tax revenue and leader failure. Next we verify and extend two studies that use different measures of leadership

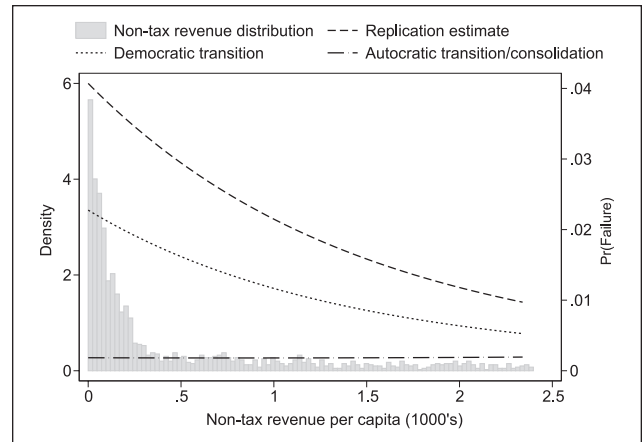


Figure 4. Non-tax revenue and Durable failure. Estimates from models in columns 1, 2, and 4 in Table A-1 of the Online Appendix.

survival. The first, Bueno de Mesquita and Smith (2010), uses leader data from Archigos, and the second, Ahmed (2012), employs a indicator of government failure from the DPI. Both studies posit that free resources, such as non-tax revenue, oil exports, foreign aid, or worker remittances, stabilize dictatorships and that this effect should be stronger for leaders in small coalition regimes and autocratic polities.

In our extension of Bueno de Mesquita and Smith (2010)’s non-tax revenue model (Model 2, Table 1 in the original), we categorize leadership exit into two bins: (1) those that coincide with a regime collapse; and (2) those that do not. Figure 5 shows how the substantive result varies across these different failure cases. The left panel depicts the change in the hazard for all leader failures. An increase in non-tax revenue of 10% of GDP is associated with a decrease in the hazard of roughly one half. The middle panel depicts the result from the model that examines only leader failures that occur during regime transitions: the substantive result is much smaller. Finally, the right panel shows the result from the model of leader failure without regime collapse: again the increase in non-tax revenue cuts the hazard by more than one half.

A second study, Ahmed (2012), tests whether “unearned” income from foreign aid and remittances influences government stability using data on leader failure from the DPI. Figure 6 shows the main result (Table 3, column 2 of the original Ahmed study)⁴ for countries with a high level of autocracy (0.5 on the transformed autocracy score). The estimate from the verification model suggests that increasing unearned income lowers the risk of failure from roughly 10% to less than 1%. However, this estimate masks the strongly negative association between unearned income and failure risk when there is *no* regime collapse and the positive (but weak) association for government failure when the regime collapses. The short dashed line depicting this latter estimate shows that moving across this range of unearned income increases the risk of regime failure from 4.3% to 5.7%.

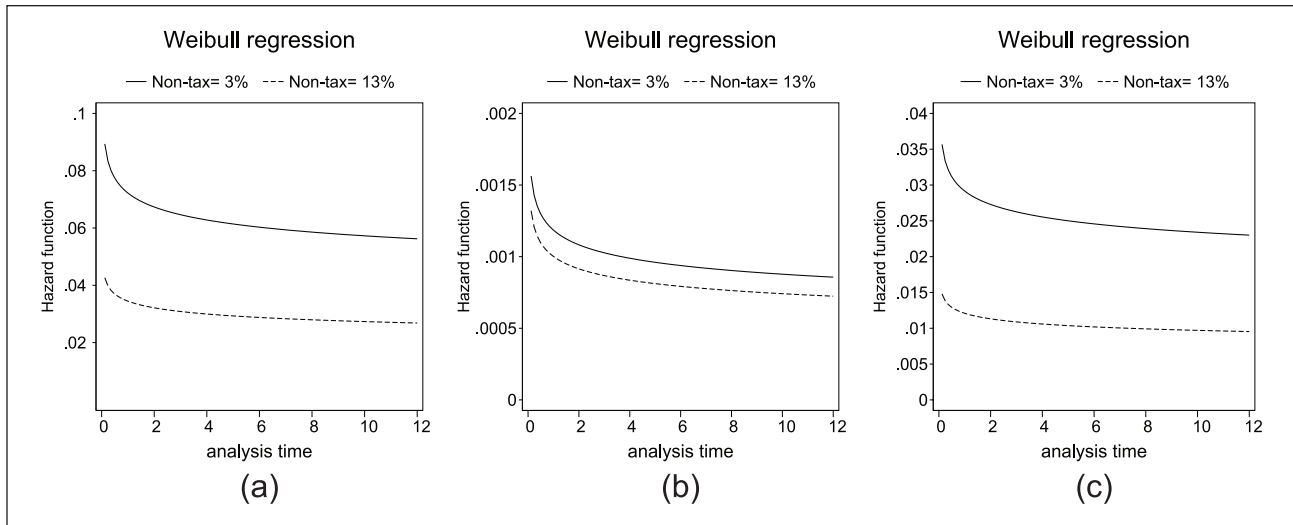


Figure 5. Non-tax revenue and leadership failure, by regime remaining in power. Hazard rates calculated from models reported in Table A-2 of the Online Appendix. Horizontal axes depict the leader time in power (in years). The vertical axes show the estimated hazard rates, associated with a 10% (of GDP) increase in non-tax revenue, from 3% to 13%. (a) All failures. (b) Regime loses power. (c) Regime remains in power.

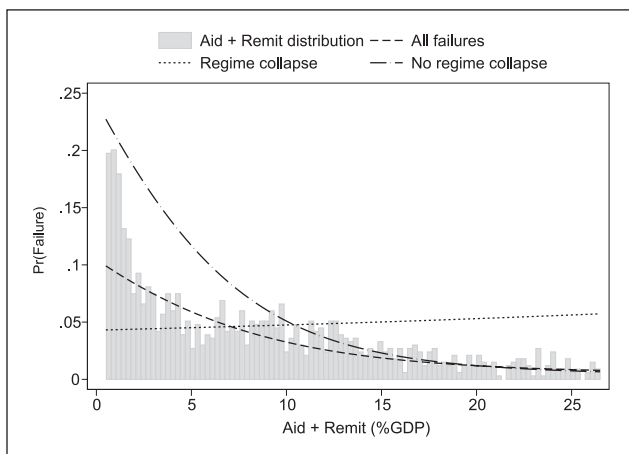


Figure 6. Unearned income and government failure, by regime remaining in power. Horizontal axes depict the measure of unearned income; vertical axes depict the estimated risk of different types of government failure. Estimates from Table A-3 of the Online Appendix.

The results from these exercises indicate that the stabilizing effect of non-tax revenue in the models of leader failure does not extend to leader failures that occur when autocratic regimes lose power. Rather, the evidence that non-tax revenue stabilizes autocracies only pertains to leader transitions that occur *when the incumbent regime retains power*. Further, there are many fewer leader failures that occur during regime changes than those that do not. This means that much of our *confidence* in models of leader failure stems from the large number of leader transitions that occur when the incumbent ruling group rotates leaders but does not lose power.

Regime breakdown as political events

This article examines commonly-used measures of autocratic breakdown that capture different concepts such as leaders, governments, authority patterns, and regimes. Each of these provides some leverage on the question of “who has power?” But, as we show, measures of who has power in autocratic contexts vary substantially, and in some cases mix together diverse types of political events—some of which may be theoretically important in some applications but not in others. We find that 40 to 60% of breakdown events in commonly-used datasets such as the *Polity Durable*, *Archigos* leader failure, and *DPI* government turnover occur when the incumbent regime remains in power. We demonstrate that relying on measures of political authority or leadership data to model autocratic regime breakdown produces mixed results.

This article contributes to the literature on regime instability in autocratic contexts by delineating the different types of failure events captured in commonly-used measures of political change so researchers can more easily choose the measure that matches their theory. Our starting point for this exercise is the definition of “autocratic regime” proposed by Geddes (1999) because this concept circumscribes the ruling group in power. Importantly, this conceptualization does not treat the regular, peaceful change of autocratic leadership from within the same ruling group, the natural death of leaders (unless accompanied by a change in the ruling group), or institutional changes such as the legalization of opposition parties, as markers of autocratic breakdown. If applied research uses these types of political events to measure autocratic regime instability, it is important to clarify this choice and justify it theoretically.

While we stress the importance of using theoretically-relevant—and perhaps narrower—measures of autocratic regime breakdown, we caution researchers not to abandon leaders but rather attempt to understand when and why they matter (Miller, 2012). One approach is to combine the concepts of leader exit and regime failure to understand when the former leads to the latter. In autocratic contexts, leaders and political authority patterns are important concepts and we have excellent measures of them. It is incumbent upon researchers to specify when different forms of leader exit are theoretically important and to delineate the types of political change that most closely match the theorized data-generating process.

Acknowledgements

The authors thank two anonymous reviewers and Kristian Gleditsch for helpful comments. All errors remain those of the authors.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Joseph Wright acknowledges support from the National Science Foundation (grant number BCS #0904463) for this research.

Notes

1. These autocratic regime data distinguish between autocratic regimes and autocratic leader spells, so a single regime can have multiple successive leaders, all drawn from the same group of elites who constitute the regime itself. The key determinant of regime failure (or survival) is not nominal leadership change or institutional reforms (such as multipartyism) but the change in the identity of the ruling group in power.
2. However, other studies question the empirical foundations of the political aid curse (Bermeo, 2011, 2015; Dunning, 2004; Wright, 2009).
3. A more detailed discussion on the original studies and our extension can be found in the Online Appendix. We also point readers to Bermeo (2015) for an analysis of these articles focusing on differences between the Cold War and post-Cold War periods.
4. Appendix E of the Online Appendix shows that the key interactive variable, *Autocracy*, is not properly lagged and is transformed. We discuss the implications of these modeling choices for our verification and extension in the Online Appendix. See Bermeo (2015) for more discussion of this study.

Supplementary Material

The online appendix is available at: <http://rap.sagepub.com/content/3/1>

References

- Acemoglu D and Robinson J (2006) *Economic Origins of Dictatorship and Democracy*. New York: Cambridge University Press.
- Ahmed FZ (2012) The perils of unearned foreign income: aid, remittances, and government survival. *American Political Science Review* 106(1): 146–165.
- Beck T, Clarke G, Groff A, et al. (2001) New tools in comparative political economy: the database of political institutions. *The World Bank Economic Review* 15(1): 165–176.
- Bermeo S (2011) Foreign aid and regime change: a role for donor intent. *World Development* 39(11): 2021–2031.
- Bermeo S (2015) Aid is not oil: donor preferences, heterogeneous aid, and the aid-democratization relationship. *International Organization*. Epub ahead of print 12 October 2015.
- Bueno de Mesquita B and Smith A (2010) Leader survival, revolutions, and the nature of government finance. *American Journal of Political Science* 54(4): 936–950.
- Chiozza G and Goemans HE (2003) Peace through insecurity tenure and international conflict. *Journal of Conflict Resolution* 47(4): 443–467.
- Debs A and Goemans HE (2010) Regime type, the fate of leaders, and war. *American Political Science Review* 104(03): 430–445.
- Dunning T (2004) Conditioning the effects of aid: cold war politics, donor credibility, and democracy in Africa. *International Organization* 58(2): 409–423.
- Geddes B (1999) What do we know about democratization after twenty years? *Annual Review of Political Science* 2: 115–144.
- Geddes B, Wright J and Frantz E (2014) New data set: autocratic breakdown and regime transitions. *Perspectives on Politics* 12(1): 313–331.
- Goemans HE, Gleditsch KS and Chiozza G (2009) Introducing Archigos: a dataset of political leaders. *Journal of Peace research* 46(2): 269–283.
- Herb M (1999) *All in the family: absolutism, revolution, and democracy in the middle eastern monarchies*. Albany, NY: State University of New York Press.
- Magaloni B (2006) *Voting for autocracy: hegemonic party survival and its demise in Mexico*. Cambridge: Cambridge University Press.
- Menaldo V (2012) The middle east and north Africa's resilient monarchs. *Journal of Politics* 74(3): 707–722.
- Miller MK (2012) Economic development, violent leader removal, and democratization. *American Journal of Political Science* 56(4): 1002–1020.
- Morrison K (2007) Natural resources, aid, and democratization: A best-case scenario. *Public Choice* 131(3–4): 365–386.
- Morrison K (2009) Oil, non-tax revenue, and the redistributive foundations of regime stability. *International Organization* 63(1): 107–138.
- Polity IV (2010) Political regime characteristics and transitions, 1800–2010. <http://www.systemicpeace.org/polity/polity4.htm>.
- Rivera Celestino M and Gleditsch KS (2013) Fresh carnations or all thorn, no rose? nonviolent campaigns and transitions in autocracies. *Journal of Peace Research* 50(3): 385–400.
- Smith A (2008) The perils of unearned income. *Journal of Politics* 70(3): 780–793.
- Svolik MW (2012) *The Politics of Authoritarian Rule*. New York: Cambridge University Press.
- Wallace J (2013) Cities, redistribution, and authoritarian regime survival. *Journal of Politics* 75(3): 632–645.
- Weeks J (2014) *Dictators at War and Peace*. Cornell University Press.
- Wright J (2009) How foreign aid can foster democratization in authoritarian regimes. *American Journal of Political Science* 53(3): 552–571.