

And Then There Was One! Authoritarian Power-Sharing and the Path to Personal Dictatorship

[A]ll principalities known to us are governed in two different ways: either by a prince with all the others his servants, who as ministers (through his favor and permission) assist in governing that kingdom; or by a prince and by barons, who hold that rank not because of any favor of their master but because of the antiquity of their bloodline.

Niccolò Machiavelli, *The Prince*

As democracies are subverted when the people despoil the senate, the magistrates, the judges of their functions, so monarchies are corrupted when the prince insensibly deprives societies or cities of their privileges. In the former case the multitude usurp the power, in the latter it is usurped by a single person.

Montesquieu, *The Spirit of the Laws*

Although numerous distinct stages can be identified in Soviet history, in terms of the structure of supreme authority there are only two periods: oligarchy and dictatorship. The latter existed only under Stalin.

Khlevniuk, *Master of the House* (2009, p. 246)

Joseph Stalin's ascent to the pinnacle of Soviet power continues to astonish casual observers and to intrigue historians. By the time of his death, Stalin arguably held "the greatest power over the greatest number of people in history" (Sunny 1998, 167), an assessment all too grimly affirmed by the millions who perished in the government-directed terror, punitive famines, and deportations during Stalin's rule (see, e.g., Snyder 2010). Stalin, initially just "an obscure associate of more radiant revolutionaries" (Sunny 1998, 167), gradually defeated actual and potential contenders within the Soviet leadership and eventually subordinated key institutions within the Soviet political system to his personal authority. By the end of the 1920s, Stalin had eliminated rival factions headed by Leon Trotsky, Gregory Zinoviev, and Nikolai Bukharin; by the end of the 1930s, the Great Purges decimated any independent,

Parts of this chapter draw on Svolik (2009).

collective power of the Communist Party, the Red Army, and Soviet officialdom (Sunny 1998, chap. 11).

Particularly perplexing then is the equally spectacular downfall of Stalin's erstwhile political allies. The historian Oleg Khlevniuk begins his account of the power struggles within the Soviet Politburo after Vladimir Lenin's death with a telling narrative of the relationship between Stalin and one of his closest associates, Vyacheslav Molotov.¹ In 1929, Molotov apparently had enough personal influence within the Soviet leadership to compel Stalin to apologize for not writing to him frequently enough.² By the time of Stalin's death in 1953, Molotov had been forced to denounce his wife (who was later arrested for treason), saw many of his protégés purged, and had been himself almost entirely dismissed from the Soviet leadership (Khlevniuk 2009, xiii–xiv). Although Molotov was fortunate enough to have Stalin's death arrest his political demise, more than half of the full or candidate members of the Soviet Politburo between 1924 and 1952 either were imprisoned, assassinated, executed, or had committed suicide.³ Stalin managed to turn the Politburo, originally an institution of collective leadership, into an instrument of his personal rule (Sunny 1997; Gorlizki and Khlevniuk 2004; Khlevniuk 2009).

How did Stalin manage to consolidate absolute power among a sea of strongmen? This chapter clarifies the logic behind the transition from collective authoritarian rule to personal autocracy, as epitomized by Stalin's rise to uncontested power. Such transitions represent the degeneration of a process I call authoritarian power-sharing: the sharing of the spoils from joint rule between the dictator and his allies. Stalin and Molotov's parallel yet opposite political trajectories highlight the stakes at the heart of authoritarian power-sharing.

The key obstacle to successful power-sharing is any dictator's desire and opportunity to acquire more power at the expense of his allies. Under dictatorship, an effective deterrent against such opportunism must be backed by a credible threat of the dictator's removal by his inner circle. Throughout this

¹ According to Khlevniuk (2009, 4), for instance, Molotov's "unconditional loyalty was one of Stalin's greatest advantages" during the power struggles of the 1920s. In return for his loyalty, Molotov was rewarded with some of the most prominent political posts in the Soviet Union: Chairman of the Council of People's Commissars (1930–1941), Minister of Foreign Affairs (1939–1949), and a key member of the Politburo (1927–1956). In fact, Milovan Djilas, the Yugoslav envoy to Moscow in the 1940s, observed that Molotov was the only member of the Politburo whom Stalin addressed using the familiar pronoun *ty* (Djilas 1962, 62).

² According to Khlevniuk (2009, xiii), Stalin's letter begins, "Hello, Viacheslav. Of course I got your first letter. I know you are cursing me in your heart for my silence. I can't deny that you are fully within your rights to do so. But try to see things my way: I'm terribly overloaded and there's no time to sleep (literally!). Soon I will write a proper letter..."

³ After the 19th Party Congress in 1952, according to Khrushchev, Stalin planned to "finish off" Molotov along with the rest of the veterans in the Politburo (Taubman 2004, 272) and replace them with a new generation of loyal followers (Gorlizki and Khlevniuk 2004, 148–9). My summary of Politburo members's violent fate under Stalin is based on Appendix 1 in Rees (2004, 240–2); I am not counting Lenin and Stalin.

book, I refer to such attempts as allies' rebellions. Because rebellions may fail and the allies typically have only limited information about the dictator's actions, they will be reluctant to rebel under most circumstances, thereby giving the dictator an incentive to try his luck and attempt to acquire power at their expense. If he succeeds in several power grabs without being stopped, the dictator may accumulate enough power that the allies will no longer be able to stage a rebellion that could topple him. It is precisely this type of dynamic that allows for the emergence of a personal autocracy.

This chapter thus answers one question that Stalin's rise to the pinnacle of Soviet power frequently evokes: Why didn't anyone stop him before it was too late? The short answer is as follows: The allies tried but failed. Indeed, shortly before his death in 1924, Vladimir Lenin was one of the first to warn about Stalin's appetite for power (Suny 1998, 143–4); Martemian Riutin's failed 1932 attempt to organize resistance against Stalin's emergent dictatorship was the last before the Great Purges cemented Stalin's personal autocracy (Suny 1998, 254–6). After the Purges, Stalin achieved "limitless power over the fate of every Soviet official, including the top leaders" (Khlevniuk 2009, 247).

However, this answer – they tried but failed – is too short and this chapter clarifies why: The answer fails to appreciate that the reasons for the emergence of personal autocracy are structural. As emphasized in Chapter 1, authoritarian elites operate under distinctly hazardous conditions. They cannot rely on an independent authority to enforce mutual agreements, and violence is the ever-present, ultimate arbiter of their conflicts. These dismal circumstances ensure that any dictator's aspiration to become the next Stalin is matched by the opportunity to do so. In fact, we will see that even if a dictator's allies do their best to deter him from usurping power at their expense, their ability to reign him in will be limited and intimately tied to the distinctive conditions under which authoritarian elites operate. Rather than an accident of history, the emergence of personal autocracy is a systematic phenomenon.

This chapter's analysis of the emergence of personal autocracy also clarifies that authoritarian power-sharing across dictatorships generally takes two qualitatively distinct forms. In the first, which I call *contested autocracy*, politics is one of balancing between the dictator and his allies, and the latter are capable of using the threat of a rebellion to deter the dictator's opportunism, even if imperfectly. By contrast, *established autocrats* have acquired enough power so they can no longer be credibly threatened by an allies' rebellion. Thus, even if the distribution of power between the dictator and his allies spans a continuum – as in the selectorate theory of Bueno de Mesquita et al. (2003) – there are, in fact, only two qualitatively distinct power-sharing regimes: Contested autocrats can be credibly threatened with a removal; established autocrats have effectively monopolized power.⁴ This theoretical difference between contested

⁴ In the next chapter, we will see that further distinctions can be drawn among contested autocracies depending on the role of institutions in power-sharing. In this chapter, I intentionally do not consider the potential role of institutions in power-sharing.

and established autocracy corresponds to the empirical difference between oligarchy and personal autocracy.

Dictators with seemingly unlimited powers have been labeled alternatively as *personalist* (Geddes 1999a), *patrimonial* (Zolberg 1966; Roth 1968), *neopatrimonial* (Jackson and Rosberg 1982; Snyder 1992; Bratton and Van de Walle 1997; Brownlee 2002), and *sultanistic* (Linz and Chehabi 1998). Thus the theoretical equilibrium of established autocracy naturally corresponds to these notions and clarifies why such dictators typically enjoy long tenures and die in their bed: They have effectively eliminated any threats from their inner circle. Nevertheless, I intentionally refer to dictatorships in which a dictator's inner circle cannot credibly threaten him with removal as established rather than personalist, neopatrimonial, or sultanistic: I emphasize that the former label is a theoretical equilibrium, whereas the latter three are empirical categories that carry additional connotations, such as charismatic leadership, reliance on traditional institutions rather than modern bureaucracy, or the lack of clear boundaries between the state and the leader's personal domain. Such empirical connotations may be implied by but are neither necessary nor do they define the analytical distinction between contested and established autocracy.

The category of a personalist dictatorship was introduced by Geddes (1999a), who distinguishes such regimes from military and single-party dictatorships. Unfortunately, she did not temporally distinguish the type of dictatorship that existed prior to any personalist regime – which would correspond to the equilibrium of contested autocracy herein – from the period of the personalist regime proper. Nevertheless, we do observe the consolidation of power that culminates in what Geddes calls a personalist dictatorship across all types of authoritarian regimes.⁵ Prominent examples include both military and single-party regimes, as exemplified by Francisco Franco and Joseph Stalin. The theory presented here provides the theoretical microfoundations that explain why such degeneration into personal rule – to borrow Brooker's expression (2000, Chap. 6) – occurs across various types of dictatorships: All dictatorships operate in a setting that lacks an independent authority that can enforce mutual agreements and in which violence is the ultimate arbiter of political conflicts.

The transition from contested to established autocracy analytically mirrors the rise to uncontested power by some of the most iconic personalist dictators: Mao Zedong, Saddam Hussein, and “Papa Doc” Duvalier, to name a few.⁶ On any of these trajectories, an authoritarian leader assumes office as the “first among equals” and succeeds over time in accumulating enough power to become an invincible autocrat. The logic outlined previously explains why such a trajectory is possible but at the same time highly unlikely. Thus, however fascinating Mao's, Hussein's, and Duvalier's path to power may be, they should also be highly unrepresentative of the “average dictator.” The average dictator

⁵ See also Brooker (2000, 37), Hadenius and Teorell (2007), and Slater (2003).

⁶ See Khlevniuk (2009) and Gorlizki and Khlevniuk (2004) on Stalin; MacFarquhar (1997a) and MacFarquhar and Schoenhals (2006) on Mao; and Makiya (1998) and Karsh (2002) on Hussein.

does not survive in office long enough to have the privilege of becoming a household name.

This empirical insight is developed in Section 3.3, which examines the statistical implications of my theoretical arguments. The long-run statistical distributions of several quantities of political interest – including the duration of tenure before a dictator is removed by a rebellion and the time in office until he becomes established, among others – can be derived directly from the theoretical model in this chapter. In fact, when actual data on tenures of authoritarian leaders are discussed in Section 3.4, I show that the probability density of the time that a dictator stays in office implied by the present model closely mirrors the actual distribution of dictators' tenures. Consistent with the arguments in this chapter, I also find that the longer an authoritarian leader stays in office, the less likely he is to be removed by a rebellion as opposed to one manner certainly unrelated to interaction with his inner circle: a natural death.

The next section outlines why and how power-sharing fails in dictatorships. It also explains why the emergence of established autocracy is a rare but systematic feature of authoritarian politics and why its occurrence depends in part on plain luck and crucially on an endogenously evolving balance of power between a dictator and his allies. Section 3.2, develops a game-theoretic model that highlights limits to the allies' ability to deter the dictator's opportunism under conditions that are characteristic of most dictatorships: the lack of an independent authority that would enforce agreements among the elites, the ever-present option of resorting to violence, and widespread secrecy. Section 3.3 derives the empirical implications of my arguments, which I evaluate by examining data on leadership change across dictatorships in Section 3.4. I conclude by discussing the rationale behind several distinctive practices used by established autocrats: personality cults as well as arbitrary and unexpected rotations, dismissals, and promotions of their key administrators or military commanders. I explain why personality cults as well as these other more peculiar practices are aimed not at the ideological conversion of the masses but rather as a public signal of the dictator's paramount political status under established autocracy.

3.1 AUTHORITARIAN POWER-SHARING AND THE EMERGENCE OF PERSONAL AUTOCRACY

This chapter studies a political setting with two key players, the *dictator* and the *ruling coalition*. The latter is composed of the dictator's allies who jointly, with him, hold enough power to be both necessary and sufficient for a regime's survival.⁷ For instance, the Syrian government of Hafiz al-Asad (1971–2000)

⁷ I use the term *power* very broadly: Both the dictator and members of the ruling coalition may derive power from economic or military resources or by having a large number of loyal followers. Loyalty in turn may be the result of ethnic, sectarian, or tribal ties or patronage or it may have more elusive foundations, as in the case of personal charisma.

relied throughout most of its existence on the support of two groups: military officers of the Alawi sect and al-Asad's family and friends.⁸ In another case, Leonid Brezhnev's position at the helm of the Soviet government depended on loyal followers from his former posts in Dnepropetrovsk and Moldova, whom he elevated into key positions in the Politburo, the Central Committee, and various government ministries (Tompson 2003; Hanson 2006).⁹

The joint desire of the dictator and the ruling coalition to share power is complicated by a fundamental conflict of interest between them: Members of the ruling coalition worry that the dictator could use his position at the helm of the regime to acquire more power and later eliminate them from the ruling coalition.¹⁰ Consider, for instance, the fate of Abdel al-Hakim Amir, who was a key member of the Free Officers Movement that brought Gamal Abdel Nasser to power in Egypt in 1952. Amir held key political posts in the Egyptian government, including the Supreme Control Committee that oversaw the Egyptian public sector and the Committee to Liquidate Feudalism that presided over agrarian reforms, culminating in his appointment as head of the Egyptian military. Nasser used Egypt's defeat in the Six-Day War of 1967 as a pretext for removing Amir from office and arrested Amir shortly thereafter for allegedly plotting to overthrow him. Amir eventually committed suicide under unclear circumstances (Waterbury 1983, 98, 279, 336–8).

Under dictatorship, the only effective deterrent against such opportunism is the ruling coalition's threat to replace the dictator. As discussed in the introduction, I refer to such collective attempts by the dictator's inner circle as allies' *rebellions*, mirroring the language of the Magna Carta of 1215, one of the first written recognitions of the right to such "baronial rebellions." However, my choice of the word *rebellion* should not be taken too literally: Most such rebellions are typically labeled coups d'état, plots, or even revolutions, as in the 17 July Revolution that brought the Baath Party to power in Iraq in 1968.

The key challenge that members of the ruling coalition face when they threaten a rebellion to discourage the dictator from usurping power is to establish the *credibility* of that threat. The threat of a rebellion may lack credibility for two reasons. First, if the balance of power between the dictator and the ruling coalition favors the dictator to the extent that a rebellion will most likely fail, the ruling coalition would rather be at the mercy of the dictator than rebel against him – even if they are certain that the dictator is usurping power. When this is the case, a rebellion lacks *ex-ante credibility*.

⁸ See, e.g., Batatu (1981), Hinnebusch (1990, Chap. 5), Hinnebusch (2002, Chap. 4), Perthes (1995, Chap. 4), Seale (1990), Van Dam (1979, Chap. 5), and Zisser (2001, Chap. 2).

⁹ Hence the concept of the ruling coalition is close to the concept of "winning coalition" in Bueno de Mesquita et al. (2003). Besley and Kudamatsu (2007), Haber (2007), and Pepinsky (2009) also examine settings in which a dictator relies on a group of core supporters.

¹⁰ Although some members of the ruling coalition may attempt to strengthen their position as well, the dictator's control of the executive presents him with the greatest opportunity to do so. I therefore analytically focus on the dictator's potential opportunism as the central obstacle to successful authoritarian power-sharing.

Understandably, the consequences of failed rebellions are dire. By far, the most frequent fate of unsuccessful plotters is death. More fortunate defeated rebels may get away with house arrest, as did Armengol Ondo Nguema – the head of internal security and the half-brother of the president of Equatorial Guinea – after the last in a series of failed coups against him in 2004; ambassadorship to Outer Mongolia, as in the case of Vyacheslav Molotov after a failed attempt to depose Nikita Khrushchev in 1957; or “rustication,” which was one of Mobutu’s methods of punishing suspicious government officials by exiling them to their home village.

However, the threat of a rebellion also lacks credibility in a more fundamental, strategic sense, which is at the heart of the arguments developed in this chapter. A rebellion’s deterrent effect is compromised by the interplay of two factors: the rebellion’s potential failure and the allies’ imperfect information about the dictator’s actions.

Dictators have understandable tactical reasons for concealing their ambitions to consolidate power. The first salvos of the Cultural Revolution – Mao Zedong’s monumental campaign against “revisionist” opponents that eventually destroyed most of the Party and state apparatus – began in 1965 with the critique of a historical theatrical play about a Ming emperor that Mao interpreted as criticism of his leadership (MacFarquhar and Schoenhals 2006, Chap. 1). Even well into the Cultural Revolution, Mao’s ultimate intentions were unclear to both his followers and his opponents (Teiwes 2010, 86).

More generally, however, the autonomy associated with delegated power in most political systems is amplified by the secrecy and back-channel politics that are typical in dictatorships. During the struggle for Soviet leadership after Vladimir Lenin’s health deteriorated between 1921 and 1924, Joseph Stalin’s maneuvers to accumulate influence by securing key appointments for himself and his loyal followers in the Party hierarchy at first went unnoticed by many powerful figures (Suny 1998, 143–8).

In Section 3.2, I formalize this aspect of authoritarian politics by assuming that the ruling coalition observes an informative yet imperfect signal of whether the dictator is attempting to strengthen his position. In dictatorships that rely heavily on their bureaucracy or party to govern, the dictator’s attempt to solidify power may manifest as the ruling coalition members’ loss of influence within these structures. During the struggle for Soviet leadership after Stalin’s death in 1953, for instance, Lavrentiy Beria took control of internal security by merging the Ministries of Internal Affairs (i.e., NKVD) and State Security (i.e., MGB), appointing men loyal to him, and deploying large contingents of the secret police to Moscow and other major cities. The danger of too much power in the hands of one man prompted a reaction so strong that even his ally Georgy Malenkov joined Nikita Khrushchev’s Party faction and Marshal Georgy Zhukov in deposing Beria. Within a few months, Beria was arrested, tried, and executed (Suny 1998, Chap. 17).

But in most dictatorships, politics is highly informal. In these settings, the relevant signal about a dictator’s actions is the loyalty of the individuals within

the bureaucracy rather than formal changes in the bureaucratic hierarchy. Such loyalties often develop institutionally, as in the case of many military dictators, but also may be tribal, ethnic, or sectarian (see, e.g., Bratton and Van de Walle 1997; Van de Walle 2001). An important step in Saddam Hussein's rise in power, for instance, was the gradual elimination of the Baath Party's independent institutional influence on the regime via the appointment of individuals from Tikrit – his place of origin – into key positions in the bureaucracy. In the late 1970s, the entrenchment of the Tikritis in the government reached such major proportions that Hussein felt the need to conceal it from public view by abolishing family names denoting place of origin (Karsh 2002, 182).

The allies' imperfect information about the dictator's actions and a rebellion's potential failure jointly undermine its *ex-post credibility*. This is how the two factors interact: The potential failure of any rebellion makes its staging costly – even if it is expected to succeed. The dictator's allies would therefore like to avoid staging it unless they are certain that the dictator is indeed trying to usurp power at their expense. But, because they observe only an imperfect signal of the dictator's actions, they never have such certainty. Stated simply, the allies would like to threaten a rebellion but will be reluctant to carry it out.

Importantly, because the dictator anticipates this dilemma, the allies' ability to deter his opportunism will be limited. The model in Section 3.2 clarifies that the more precise the allies' information about the dictator's actions or the closer the dictator is to consolidating power, the more willing the allies will be to act on their threat to rebel. Crucially, however, the allies' reluctance to rebel will invariably tempt the dictator to usurp power in the hope that the allies will fail to either detect or act on it. More technically, the dictator will try to usurp power with a positive probability.

This tenuous *ex-post* credibility of the allies' threat of a rebellion, caused by an interplay of the allies' imperfect information about the dictator's actions and the potential failure of any rebellion, is a key obstacle to successful authoritarian power-sharing: Even if the ruling coalition acts optimally, the dictator may be sufficiently fortunate to accumulate enough power to eliminate them altogether.

I investigate this possibility in a dynamic setting in which the balance of power between the dictator and the ruling coalition evolves endogenously. In some periods, the dictator will be fortunate enough that even when he behaves opportunistically, a rebellion will either not be staged or fail, thereby shifting the balance of power in the dictator's favor. If the dictator succeeds in several power grabs, he may accumulate enough power that the ruling coalition will no longer be willing to rebel – the threat of a rebellion will lose *ex-ante* credibility. This, according to the *Resolution on Party History (1949–81)*, is what happened during Mao Zedong's rule. The *Resolution*, which after the Chairman's death summarized the Chinese Communist Party's lessons from the Party's total subjugation to Mao's whims, explains that his growing arrogance and arbitrariness “took place only gradually” and that “the Central Committee of the Party should be held partly responsible” for failing to prevent it (cited in MacFarquhar and Schoenhals 2006, 458).

In the formal model examined in the next section, I show that this dynamic results in the emergence of two qualitatively distinct power-sharing regimes. Under *contested autocracy*, a rebellion threatened by the ruling coalition has sufficient ex-ante credibility to deter his opportunism, even if only partially. Thus, contested autocracy is an equilibrium in which authoritarian politics is characterized by power-sharing – albeit imperfect – between the dictator and the ruling coalition. Although the dictator may be the most powerful member of the ruling coalition, he rules in the shadow of the threat of a rebellion. This type of power-balancing appears to have characterized the interaction between the General Secretary of the Communist Party and the Politburo after Stalin’s death. In Zemtsov’s (1991, 133) depiction, for instance,

... the general secretary’s power or potential is inversely proportional to the influence of the Politburo members, who aim at maintaining a delicate balance between his power and theirs. They cannot let the general secretary accumulate too much power, for they would they find themselves devoid of influence in decision-making. ...

I call the second power-sharing regime *established autocracy*, which emerges after a dictator succeeds in consolidating enough power that he can no longer be credibly threatened by the ruling coalition. Under this “degenerated” power-sharing regime, rebellions do not occur and the dictator has effectively eliminated the ruling coalition, whose support is no longer necessary for his survival. In their study of personal rule in Africa, Jackson and Rosberg (1982, 143) call such dictators “African Autocrats” and emphasize – as I do herein – that what distinguishes the African Autocrat is

... not ideology or ruling style but by his greater freedom to act as he sees fit. He is freer to break agreements (or not to make them in the first place) because those with whom he may have them are in no position to enforce them. There are no powerful rivals with whom he must contend.

The transition from contested to established autocracy therefore can be seen as one from oligarchy to autocracy: Instead of allies who share power with the dictator and may constrain his choices, members of the ruling coalition become administrators who are fully subservient to the dictator and do not share power with him in any meaningful sense.

In fact, historical accounts of authoritarian politics identify precisely such a dichotomy in the power trajectories of dictators.¹¹ According to Teiwes (2001, 79), Mao Zedong’s tenure “can essentially be divided between the period before 1958 when the Chairman listened to interests within the system and sought results that took those interests into account..., and the subsequent ‘later Mao’ period when he simply overrode interests....” In Jackson and Rosberg’s

¹¹ Meanwhile, classical philosophers have drawn distinctions between political regimes that parallel the difference between contested and established autocracy. In *Politics*, Aristotle distinguished between the government of one or of a few; in *The Spirit of the Laws*, Montesquieu differentiated between monarchical and despotic regimes; and in *The Prince*, Machiavelli separated limited and absolute princes.

account (1982, 170–1), Mobutu Sese Seko’s tenure in office consists of the period before 1970, when he was consolidating power, and the period after 1970, when his “personal autocracy was firmly established” and “old political allies . . . who exhibited the slightest sign of independence were purged.” Finally, as Khlevniuk’s (2009, 246) summary in the epigraph at the beginning of this chapter highlights, the same can be said about Stalin’s trajectory in power – there were only two periods in terms of the structure of supreme authority: oligarchy and dictatorship.

Among the possible power trajectories explained by the arguments in this chapter is one on which an authoritarian leader assumes office as the “first among equals” but over time, as a result of opportunism and luck, accumulates enough power to become an invincible autocrat. Observers are often puzzled by how – typically in several distinct stages along such a trajectory – the dictator’s old allies become his new enemies. Consider Karsh’s characterization of Saddam Hussein’s position as the apparent successor of Ahmed Hassan al-Bakr, after the latter resigned his presidency:

[Saddam] was not content with the comfortable majority he enjoyed in the state’s ruling institutions. . . . He was at once far more powerful than all his comrades put together, and far more vulnerable to attack from them. (2002, 113)

This chapter explains this dynamic: After every successful power grab by the dictator, members of the ruling coalition become more concerned about the possibility that he will become established and eliminate them. As discussed in the next section, the dictator’s appetite for power also grows as he strengthens his position. Meanwhile, the ruling coalition counters this expanding appetite by rebelling with an increasing probability. The ladder to ultimate power becomes more slippery as the dictator advances to the top.

As suggested at the beginning of this chapter, Stalin’s rise to power is perhaps the most prominent example of the transition from contested to established autocracy. Stalin rose from the position of an “obscure party functionary” (Suny 1998, 49) in the 1920s to an indomitable autocrat by the end of the 1930s. By the end of the 1920s, Stalin eliminated from the Communist Party the key opposition groups associated with Trotsky, Zinoviev, and Bukharin (Suny 1998, 165–6). In 1924, when the terminally ill Lenin warned that Stalin had accumulated too much power, the Party ignored him, and Stalin was retained as the general secretary (Suny 1998, 146–8). Ten years later, in another push to consolidate his power, Stalin’s Purges transformed the Communist Party from an ideological organization of elites and intellectuals, whose primary political interest was the promotion of Communism, into a party in which power rested in the hands of people of low-class origins whose primary personal loyalty was to Stalin. Stalin eliminated more than one-half of the 1,961 delegates and more than two-thirds of the 139 Central Committee members elected at the 17th Party Congress in 1934, the last such Congress before the Great Purges. He purged about one-half of the officer corps from the army and executed more Soviet generals than would be killed in World War II (Suny 1998, 261–8). In a

series of steps, Stalin first defeated rival factions within the Soviet leadership; later, he eliminated the Communist Party and the army as independent political forces. At the end of this process, according to Nikita Khrushchev, “all of us around Stalin were temporary people. As long as he trusted us to a certain degree, we were allowed to go on living and working.”¹²

Whereas the transition from contested to established autocracy happens with a positive (if small) probability, there is no return from established to contested autocracy. Once a dictator is established, he may, of course, still lose power, but such instances should be rare and occur primarily by a process that is politically divorced from the interaction between the dictator and his ruling coalition. Hence, rather than by the hands of their inner circle, established dictators should more often lose power by popular uprisings – as in the case of Tunisian President Zine El Abidine Ben Ali – or by foreign interventions – as in the case of Jean-Bédél Bokassa of the Central African Republic. In terms of the dictator’s position vis-à-vis his ruling coalition, established autocracy is one in which all ends are tied up (“atado y bien atado”), to paraphrase Franco’s assurance about the continuity of his regime (Payne 1987, 575).

3.2 A FORMAL MODEL

This section presents a game-theoretical model of authoritarian power-sharing that generates the key results discussed so far. Consider a polity governed by a *ruling coalition* of allies and a *dictator*. Jointly with the dictator, members of the ruling coalition hold enough power to be both necessary and sufficient for the survival of the government. I normalize this amount of power to 1. I denote the dictator’s share of power by $b \in (0, 1)$ and the ruling coalition’s share of power by $1 - b$. Thus the term b measures the balance of power between the dictator and the ruling coalition.

The dictator’s position allows him to *renege* on his promise to share power – for example, by appointing loyal followers to key policy-making positions – and thus increase his share of power relative to the power of the ruling coalition. Once he acquires enough power, he may eliminate members of the ruling coalition who are no longer necessary for the survival of the government. Therefore, the ruling coalition prefers to deter such behavior and have the dictator *comply* with the status quo.

However, the ruling coalition observes only an imperfect signal $\theta \in \{H, L\}$ of the dictator’s actions. More specifically, the conditional probability that the observed signal θ is *high* (H) or *low* (L) is $\pi_{\theta a}$, where $a \in \{c, r\}$ denotes the dictator’s actions: comply and renege, respectively. Thus if the dictator reneges, the probability that the ruling coalition observes a high signal is π_{Hr} . I assume that the signal θ is informative about the dictator’s actions in the sense of the monotone likelihood ratio property: $\pi_{Hr} > \pi_{Hc}$. In other words, when the signal is H , the ruling coalition knows that it is more likely that

¹² Khrushchev (1970, 307), cited in Suny (1997, 51).

the dictator has reneged than complied and vice versa, but it is never certain. Setting $0 < \pi_{\theta a} < 1$ for all θ and a ensures that the dictator's actions cannot be perfectly inferred from the observed signal.

To deter the dictator from reneging, the ruling coalition may threaten to stage a *rebellion*, the success of which depends on the balance of power between the dictator and the ruling coalition. I denote the probability that a rebellion succeeds by $\rho \in (0, 1)$. To keep the model tractable, I assume $\rho = 1 - b$.¹³ Thus, the stronger the ruling coalition is relative to the dictator, the more likely it is that a rebellion succeeds. At this point, I assume away any collective-action problems that the ruling-coalition members may face when staging a rebellion and simply treat the ruling coalition as a unitary actor. I focus on the collective-action problem of replacing a dictator in the context of authoritarian power-sharing in the next chapter and, in fact, show that these simplifying assumptions are warranted.

The payoffs to the dictator and the ruling coalition depend on three consecutive outcomes: whether the dictator reneges, whether the ruling coalition rebels, and whether the rebellion succeeds. If the dictator complies and is not removed by a rebellion, the status quo is maintained and he receives the payoff b . Ideally, however, the dictator would renege and not be removed by a rebellion. I denote the amount of power that the dictator acquires when he reneges by $\mu > 0$.¹⁴ Then, if the dictator reneges and a rebellion is either not staged or fails, his power (and payoff) grows from b to $b + \mu b$.¹⁵ Because the amount of power that the dictator can hold is at most 1, μ must be such that $b + \mu b \leq 1$. Finally, if a rebellion succeeds, the dictator is removed from power and receives the payoff 0.

Each member of the ruling coalition would ideally like to preserve the status quo and share power with the dictator. This occurs when the dictator complies and a rebellion is not staged or when a rebellion is staged and succeeds, regardless of whether the dictator reneged.¹⁶ In that case, each member of the ruling coalition obtains a payoff 1. If a rebellion fails, the entire ruling coalition is eliminated and each member receives the payoff 0. Finally, if the dictator reneges and a rebellion is not staged, the dictator eliminates a member of the ruling coalition with the probability $\epsilon \in (0, 1)$. In that case, the expected payoff to each member of the ruling coalition is $1 - \epsilon$. Thus we allow for the possibility that a member of the ruling coalition survives even if the dictator reneges and a rebellion is not staged. More precisely, $1 - \epsilon > 0$ implies that a

¹³ Hirshleifer (1989) and Skaperdas (1996) discuss more general forms for a contest success function.

¹⁴ In a more realistic setting, μ would be the dictator's choice rather than fixed. Here, we can think of μ as the maximum amount of power that the dictator can acquire by reneging without it being perfectly observed.

¹⁵ Thus if the dictator reneges and a rebellion fails, the dictator still needs a ruling coalition with the power $1 - (b + \mu b)$ for his regime to stay in power.

¹⁶ If a rebellion is staged and succeeds, the ruling coalition renegotiates the power-sharing agreement and chooses a new dictator.

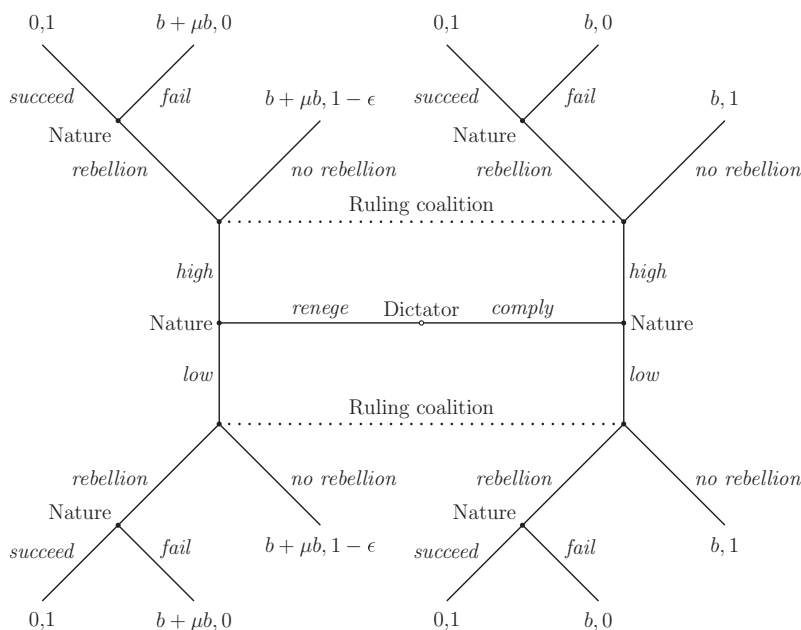


FIGURE 3.1. Authoritarian power-sharing game in extensive form.

member of the ruling coalition prefers being at the mercy of a dictator who reneged to participating in a failed rebellion.

Figure 3.1 portrays the timing of the actions and the payoffs in this authoritarian power-sharing game. First, the dictator chooses whether to renege or comply. Second, the ruling coalition observes an imperfect signal of the dictator's action and decides whether to rebel. Finally, if a rebellion is staged, then it either succeeds or fails.

3.2.1 Authoritarian Power-Sharing

Can the ruling coalition deter the dictator's opportunism using only the threat of a rebellion? The threat of a rebellion would certainly deter the dictator's opportunism if his actions were *perfectly observable*. The dictator would anticipate that if he reneged, the ruling coalition would plainly observe his actions and have no choice but to rebel. He would therefore always comply.

This reasoning does not extend to the present setting, in which a dictator's actions are not perfectly observable. Recall that the likelihood of a successful rebellion depends on the balance of power between the dictator and the ruling coalition. Thus staging a rebellion is costly to the ruling coalition because it may fail. As a result, the ruling coalition would prefer to threaten a rebellion if it observes a high signal, have the dictator believe this threat and therefore comply from the outset, but ultimately *not* carry out the rebellion despite having

observed a high signal. Of course, believing such a threat on the dictator's part would not be consistent with the ruling coalition's strategy. Instead, the dictator would anticipate the ruling coalition's line of reasoning, not consider the threat of a rebellion credible, and thus renege.

The threat of a rebellion is credible only if the ruling coalition has an incentive to carry out its threat *after* the dictator has acted and the ruling coalition has observed an imperfect signal of his action. This incentive exists only if the possibility that the dictator reneged is real. In other words, the threat of a rebellion is *credible* only if the dictator reneges with a positive probability. This logic can be verified by examining the perfect Bayesian equilibrium of this authoritarian power-sharing game.

Allowing for mixed strategies, this game proceeds in four stages. First, the dictator reneges with probability α . Second, depending on the dictator's action, nature determines the realization of the signal θ with probability $\pi_{\theta d}$. Third, the ruling coalition rebels with probability β_θ after it observes the signal θ . For example, β_H is the probability that the ruling coalition rebels when it observes a high signal. Fourth, if a rebellion is staged, it succeeds with probability ρ .

First, consider the ruling coalition's equilibrium strategy β_θ . Based on the previous discussion, we may verify that there is no equilibrium in which the dictator uses a pure strategy *and* the ruling coalition conditions its decision to rebel on the observed signal.¹⁷ In a mixed-strategy equilibrium, the ruling coalition rebels with probability β_θ such that, given the correlation between his actions and the signal θ , the dictator is indifferent between reneging and complying. Thus we have

$$\begin{aligned} & \sum_{\theta \in \{H, L\}} \pi_{\theta c} [\beta_\theta(1 - \rho)b + (1 - \beta_\theta)b] \\ &= \sum_{\theta \in \{H, L\}} \pi_{\theta d} [\beta_\theta(1 - \rho)(b + \mu b) + (1 - \beta_\theta)(b + \mu b)], \end{aligned}$$

or, equivalently,

$$\sum_{\theta \in \{H, L\}} \pi_{\theta c}(1 - \beta_\theta \rho)b = \sum_{\theta \in \{H, L\}} \pi_{\theta d}(1 - \beta_\theta \rho)(b + \mu b). \quad (3.1)$$

Solving (3.1) for β_H , we obtain

$$\beta_H = \frac{\mu}{\pi_{Hr}(1 + \mu) - \pi_{Hc}} \left(\frac{1}{\rho} - \beta_L \right) + \beta_L,$$

which implies that $\beta_H > \beta_L$. Intuitively, the ruling coalition rebels with a greater probability after observing a high signal than a low signal. Among the possible pairs (β_L, β_H) that satisfy equality (3.1), only the pairs $(\beta_L = 0, \beta_H > 0)$ and

¹⁷ As is the case with many extensive games with imperfect information, this game also has an implausible equilibrium in which the ruling coalition ignores the information conveyed by the signal θ , rebels with probability 1, and the dictator reneges with probability 1.

$(\beta_L > 0, \beta_H = 1)$ constitute an equilibrium.¹⁸ Moreover, the equilibrium in which $\beta_L = 0$ and $\beta_H > 0$ is focal from the point of view of a dictator and a ruling coalition who would like to share power: *Both* actors prefer this equilibrium to that in which $\beta_L > 0$ and $\beta_H = 1$.¹⁹ Therefore the remainder of this chapter restricts attention to the relevant equilibrium, in which $\beta_L = 0$ and $\beta_H > 0$.

In this equilibrium, the ruling coalition rebels with a positive probability *only* after observing a high signal,

$$\beta_L^* = 0 \quad \text{and} \quad \beta_H^* = \frac{\mu}{\rho [\pi_{Hr}(1 + \mu) - \pi_{Hc}]} > 0. \quad (3.2)$$

Furthermore, (3.2) implies that the equilibrium probability that the ruling coalition rebels after observing a high signal β_H^* is decreasing in both the probability that a rebellion succeeds (ρ) and the informativeness of the signal θ about the dictator's actions (π_{Hr}/π_{Hc}), whereas it is increasing in the amount of power μ that the dictator acquires by reneging. This raises the possibility that μ could be so large that the dictator would renege even if $\beta_H = 1$. That is, the dictator would renege even if the ruling coalition *always* rebelled after observing a high signal. To focus on settings in which a dictator is potentially deterrable, I make the following assumption.

Assumption 3.1 (Limited Temptation to Consolidate Power). *The additional power μ that the dictator acquires by reneging cannot be so large that the dictator reneges for all $\beta_H \leq 1$,*

$$\mu < \frac{\rho(\pi_{Hr} - \pi_{Hc})}{1 - \rho\pi_{Hr}}.$$

Assumption 3.1 admits a larger μ by the dictator when the signal θ is more informative about his actions and when the probability that a rebellion succeeds ρ is larger.

Finally, what is the dictator's equilibrium strategy α ? In a mixed-strategy equilibrium, α must be such that the ruling coalition is indifferent between rebelling and not rebelling after observing a high signal. Although the ruling coalition does not directly observe the dictator's actions, we can compute the conditional probability that the dictator reneged given the signal that the ruling coalition observes. I denote this probability as $\Pr(a|\theta)$. For example, $\Pr(d|H)$ is the probability that the dictator reneged, given that the ruling coalition observes a high signal. Using Bayes' rule, we see that

$$\Pr(d|H) = \frac{\pi_{Hr}\alpha}{\pi_{Hr}\alpha + \pi_{Hc}(1 - \alpha)}. \quad (3.3)$$

¹⁸ In any equilibrium in mixed strategies, the ruling coalition is indifferent between rebelling and not rebelling after observing a high signal or a low signal but not both. Therefore, in an equilibrium in mixed strategies, either $\beta_L = 0$ or $\beta_H = 1$.

¹⁹ A detailed proof of this claim, as well as of all the propositions that follow, is in the appendix to this chapter.

Then, the ruling coalition is indifferent between rebelling and not rebelling after observing a high signal whenever

$$\rho = \Pr(d|H)(1 - \epsilon) + 1 - \Pr(d|H),$$

where ρ is the expected payoff to the ruling coalition from rebelling, whereas $\Pr(d|H)(1 - \epsilon) + 1 - \Pr(d|H)$ is the expected payoff from no rebellion. Substituting $\Pr(d|H)$ from (3.3), the equilibrium probability with which the dictator reneges is

$$\alpha^* = \frac{\pi_{Hc}}{\pi_{Hc} + \pi_{Hr} \left(\frac{\epsilon}{1-\rho} - 1 \right)}. \quad (3.4)$$

3.2.2 Balance of Power and Authoritarian Power-Sharing

I intentionally reserved the discussion of the effect of the balance of power between the dictator and the ruling coalition on their equilibrium behavior until now because it is central to the dynamics of authoritarian power-sharing. As outlined previously, depending on the balance of power between the dictator and the ruling coalition, two distinct power-sharing regimes may emerge.

First, a *contested autocracy* is an equilibrium in which a rebellion staged by the ruling coalition succeeds with a sufficiently high probability to credibly threaten the dictator. Despite the fact that the dictator reneges with a positive probability and rebellions do occur, the dictator's opportunism is at least partially deterred in this equilibrium. On the other hand, in an *established autocracy*, the balance of power between the dictator and the ruling coalition favors the dictator to the extent that a rebellion is so unlikely to succeed that he correctly anticipates that the ruling coalition will not stage one. In this regime, rebellions do not occur and the dictator has effectively eliminated the ruling coalition.

Equilibrium conditions (3.2) and (3.4) imply that as the balance of power between the dictator and the ruling coalition shifts in favor of the dictator, the ruling coalition rebels and the dictator reneges with increasing probability. That is, as the dictator becomes more powerful, his appetite for power grows and the ruling coalition counters it by rebelling with greater probability. This dynamic can be seen by substituting $\rho = 1 - b$ into (3.4),

$$\alpha^* = \frac{\pi_{Hc}}{\pi_{Hc} + \pi_{Hr} \left(\frac{\epsilon}{b} - 1 \right)}.$$

How much power must the dictator acquire before the ruling coalition can no longer credibly threaten a rebellion? We may say that the threat of a rebellion lacks *ex-ante credibility* when the balance of power favors the dictator to the extent that the ruling coalition would not rebel even if it were certain that the dictator actually reneged. Thus the threat of a rebellion will be *ex-ante credible* as long as after the dictator reneges, the ruling coalition's expected payoff from rebelling is greater than the expected payoff from not rebelling, $\rho \geq 1 - \epsilon$, or

equivalently, $\epsilon \geq b$. When the threat of a rebellion lacks ex-ante credibility, each member of the ruling coalition would rather do nothing and hope that the dictator does not eliminate him than stage a rebellion that would most likely fail.

Therefore, $b = \epsilon$ is the largest share of power held by the dictator under which the threat of a rebellion is ex-ante credible. Then as long as $b \in (0, \epsilon]$, the strategies of the dictator and the ruling coalition summarized by expressions (3.2) and (3.4) constitute an equilibrium of this power-sharing game. We can check that, given the equilibrium probability with which the dictator reneges α^* and as long as $\rho \geq 1 - \epsilon$, the ruling coalition prefers not to rebel when it observes a low signal,

$$\rho \leq \Pr(d|L)(1 - \epsilon) + 1 - \Pr(d|L).$$

Thus, the ruling coalition has no incentive to deviate from its equilibrium strategy of rebelling with a positive probability only when it observes a high signal ($\beta_L^* = 0, \beta_H^* > 0$), as long as the threat of a rebellion is ex-ante credible. This condition also guarantees that $0 < \alpha^* \leq 1$. I call this equilibrium a *contested autocracy*.

Now consider the case when $b > \epsilon$. In this case, the success of a rebellion is so unlikely that the ruling coalition would not stage one even if it knew that the dictator reneged. Thus we have $\beta_L^* = \beta_H^* = 0$. In turn, there is nothing to deter the dictator from reneging and $\alpha^* = 1$. I call this equilibrium *established autocracy*. These results are summarized in the following proposition.

Proposition 3.1 (Authoritarian Power-Sharing). *In a perfect Bayesian equilibrium of the authoritarian power-sharing game,*

$$\alpha^* = \frac{\pi_{Hc}}{\pi_{Hc} + \pi_{Hr} \left(\frac{\epsilon}{1-\rho} - 1 \right)}, \quad \beta_L^* = 0,$$

and

$$\beta_H^* = \frac{\mu}{\rho [\pi_{Hr}(1 + \mu) - \pi_{Hc}]} \quad \text{if } b \in (0, \epsilon];$$

and $\alpha^* = 1, \beta_L^* = \beta_H^* = 0$ if $b \in (\epsilon, 1]$.

Does the ability of the dictator and the ruling coalition to share power under contested autocracy deteriorate as the dictator acquires more power? Power-sharing is successful when the dictator complies and the ruling coalition does not rebel,

$$\Pr(\text{Successful Power-Sharing}) = (1 - \alpha^*) [\pi_{Hc}(1 - \beta_H^*) + (1 - \pi_{Hc})].$$

We may check that the probability of successful power-sharing is decreasing in the dictator's power.

Furthermore, we have seen that under contested autocracy, both the probability that the dictator reneges and the probability that the ruling coalition rebels increase as the balance of power shifts in the dictator's favor. However, does the probability that a dictator reneges *successfully* also increase when he

has accumulated more power? Under contested autocracy, the dictator reneges successfully when he reneges and (1) the ruling coalition observes a low signal; (2) the ruling coalition observes a high signal but does not rebel; or (3) the ruling coalition observes a high signal and stages a rebellion that fails. Thus the probability that the dictator gets away with reneging is

$$\Pr(\text{Successful Reneging}) = \alpha^* [\pi_{Ld} + \pi_{Hr}(1 - \beta_H^*) + \pi_{Hr}\beta_H^*(1 - \rho)].$$

The appendix to this chapter confirms that the probability that the dictator successfully reneges is indeed increasing in the dictator's power. In other words, the moral hazard associated with authoritarian power-sharing intensifies as the dictator gains more power.

Proposition 3.2 (Balance of Power). *If $b \in (0, \epsilon]$, then α^* , β_H^* , and $\Pr(\text{Successful Reneging})$ are all increasing in b , whereas $\Pr(\text{Successful Power-Sharing})$ is decreasing in b .*

We may also examine how the likelihood of successful power-sharing and the dictator's successful reneging depend on the precision of the signal θ about his actions. We can check that the equilibrium probabilities α^* and β_H^* are decreasing in π_{Hr} and increasing in π_{Hc} . Therefore, when the signal θ about the dictator's actions is more informative (i.e., π_{Hr}/π_{Hc} increases), the likelihood of successful power-sharing is greater. On the other hand, the relationship between the dictator's probability of successfully reneging and the informativeness of the signal θ is nonmonotonic.

Proposition 3.3 (Transparency). *If $b \in (0, \epsilon]$, then $\Pr(\text{Successful Power-Sharing})$ is increasing in the informativeness of the signal θ about the dictator's actions, π_{Hr}/π_{Hc} .*

Finally, observe that the equilibrium probability with which the dictator reneges α^* is decreasing in ϵ , the probability with which he eliminates a member of the ruling coalition if he successfully reneges. Although not an explicit part of this model, if larger ruling coalitions are associated with a lower probability of any ruling-coalition member being eliminated and, therefore, a lower ϵ , then larger ruling coalitions may be better able to deter the dictator's opportunism and thus successfully share power.

To illustrate the findings in this section, consider the following numerical example. When $\pi_{Hr} = 0.8$, $\pi_{Hc} = 0.2$, $\mu = 0.2$, $b = 0.45$, and $\epsilon = 0.5$, a rebellion succeeds with the probability $\rho = 0.55$; the ruling coalition never rebels when the signal θ is low ($\beta_L^* = 0$) but rebels when the signal θ is high with the probability $\beta_H^* = 0.48$; and the dictator reneges with the probability $\alpha^* = 0.69$. The probability of successful power-sharing under these conditions is 0.28 and the probability that the dictator successfully reneges is 0.55. This is an example of contested autocracy because $b < \epsilon$. However, if the dictator successfully reneges, his power grows to $b = 0.54 > \epsilon = 0.5$. In that case, this regime becomes established with $\beta_L^* = \beta_H^* = 0$ and $\alpha^* = 1$.

3.2.3 A Model with Endogenously Evolving Balance of Power

Although the results so far are based on a single-period extensive game, they suggest a dynamic interpretation of the dictator's power trajectory. That is, we could conceive of a repeated game in which the balance of power between the dictator and the ruling coalition in each period depends on whether the dictator successfully reneged in the previous period. Proposition 3.1 implies that, under contested autocracy, the dictator will act opportunistically with a positive probability and the ruling coalition will rebel with a positive probability as well. Proposition 3.2 implies that the probability that the dictator indeed acquires more power is always positive and, in fact, increases with that power. Any contested autocrat therefore may become established if he succeeds in acquiring a sufficient amount of power, although such a trajectory is unlikely.

I now examine such a multiperiod game. In an equilibrium of this game, the balance of power between the dictator and the ruling coalition evolves *endogenously*. The dynamic in this multiperiod game is qualitatively identical to that in the single-period game. In the next section, I use this multiperiod game to examine the implications of my theory for the statistical analysis of leaders tenures in authoritarian regimes.

Periods are indexed by $t = \{T, T - 1, \dots, 1, 0\}$ so in any period, T is the number of times the dictator must successfully renege to become an established autocrat. Thus, $t = 1$ denotes the period in which a single successful reneging turns contested into established autocracy. The game ends in period $t = 0$ in which $b_0 > \epsilon$ and the ruling coalition's threat to rebels is no longer ex-ante credible.

In each period, the dictator and the ruling coalition receive one of the three possible payoffs portrayed in Figure 3.1. Recall that these payoffs depend on whether the dictator reneges, whether the ruling coalition rebels, and whether a rebellion succeeds. In any period, the existing balance of power b_t summarizes the payoff-relevant history of play. Then

$$V^t = (b_t + \delta V^t)(1 - \alpha_t) [\pi_{Hc} \beta_t (1 - \rho_t) + \pi_{Hc} (1 - \beta_t) + 1 - \pi_{Hc}] \\ + (b_t + \mu b_t + \delta V^{t-1}) \alpha_t [\pi_{Hr} \beta_t (1 - \rho_t) + \pi_{Hr} (1 - \beta_t) + 1 - \pi_{Hr}],$$

and

$$U^t = (1 + \delta U^t) [\alpha_t \pi_{Hr} \beta_t \rho_t + (1 - \alpha_t) \pi_{Hc} \beta_t \rho_t + (1 - \alpha_t) \pi_{Hc} (1 - \beta_t) \\ + (1 - \alpha_t)(1 - \pi_{Hc})] + (1 - \epsilon + \delta U^{t-1}) [\alpha_t \pi_{Hr} (1 - \beta_t) + \alpha_t (1 - \pi_{Hr})]$$

are the discounted expected payoffs to the dictator and any member of the ruling coalition in period t , respectively, and $\delta \in (0, 1)$ is a discount factor. When the dictator becomes established, $V^0 = 1$ and $U^0 = 1 - \epsilon$.

Suppose that given an existing balance of power, the ruling coalition uses the threat of a rebellion in a way that is optimal from that period onward and ignores any previous history of play. That is, we examine a Markov perfect equilibrium of this multiperiod, authoritarian power-sharing game. Optimal strategies can be computed using backward induction by starting in period

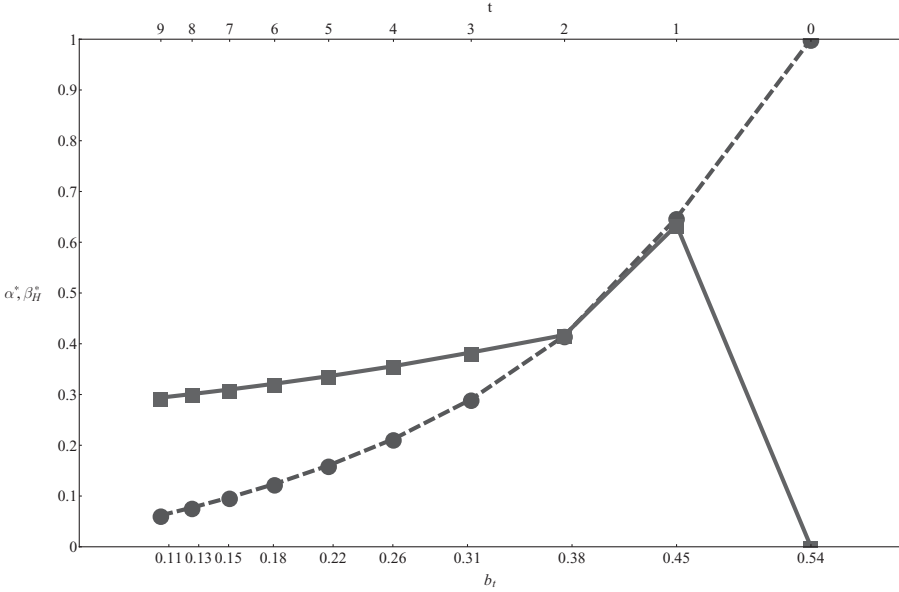


FIGURE 3.2. The probability that the dictator reneges, α^* (dashed line), and the probability that the ruling coalition rebels if it observes a high signal, β_H^* (solid line), in an equilibrium of the multiperiod authoritarian power-sharing game.

$t = 1$ and then proceeding recursively for the remaining periods. Explicit solutions obtained in this way are far too complicated algebraically to be useful. I therefore present a numerical example here instead.

Suppose that $\pi_{Hr} = 0.8$, $\pi_{Hc} = 0.2$, $\mu = 0.2$, $\epsilon = 0.5$, and $\delta = 0.1$ and the initial balance of power is 0.11. In this case, the dictator must renege successfully nine times to become established, $T = 9$ and $b_t = (0.11, 0.13, 0.15, 0.18, 0.22, 0.26, 0.31, 0.38, 0.45)$ for $t = 9, \dots, 1$. The equilibrium probabilities with which the dictator reneges and the ruling coalition rebels, α_t^* and β_{Ht}^* , are portrayed in Figure 3.2. The horizontal axis denotes both the periods t (i.e., upper axis) and the balance of power b_t (i.e., lower axis) in these periods. We see that the equilibrium probabilities that the dictator reneges and the ruling coalition rebels are increasing as he acquires more power until period 1, when $b_1 = 0.45$. If the dictator successfully reneges in that period, he becomes established and the ruling coalition prefers to be at his mercy to staging a rebellion. This numerical example can be easily generalized to any number of periods T .

3.3 IMPLICATIONS FOR THE EMPIRICAL STUDY OF AUTHORITARIAN TENURES

Some of the key theoretical results so far have been stated with respect to the balance of power between the dictator and the ruling coalition – a factor

that is difficult to measure in large-N data. An advantage of the model in Section 3.2 is that it has unambiguous implications for another outcome that is easily observable and of substantial political interest: the amount of time that a dictator stays in power.²⁰ We can derive the statistical distribution of an authoritarian leader's time in office until a successful rebellion, the time until an autocracy becomes established, and the distribution of the time that a leader is expected to spend at each step of his power trajectory. In fact, a convenient feature of the equilibrium in mixed strategies examined in Section 3.2 is that statistical distributions of these quantities can be derived directly from the multiperiod model. Furthermore, these distributions correspond to standard survival distributions. The claims advanced in Section 3.2 therefore can be evaluated within a well-specified statistical framework.

As previously, periods are indexed by $t = \{T, T - 1, \dots, 1, 0\}$, where $T > 0$ denotes the number of times that the dictator must successfully renege to become established. Then along the dictator's equilibrium-power trajectory, three possible outcomes – successful power-sharing, a successful rebellion, or successful reneging – occur with the following probabilities:

$$\begin{aligned} \Pr(\text{Successful Power-Sharing}_t) &= (1 - \alpha_t)(1 - \pi_{Hc} \\ &\quad + \pi_{Hc}[1 - \beta_{Ht} + \beta_{Ht}(1 - \rho_t)]), \\ \Pr(\text{Successful Rebellion}_t) &= [\alpha_t\pi_{Hr} + (1 - \alpha_t)\pi_{Hc}] \beta_{Ht} \rho_t, \\ \Pr(\text{Successful Reneging}_t) &= \alpha_t(1 - \pi_{Hr} + \pi_{Hr}[\beta_{Ht}(1 - \rho_t) \\ &\quad + 1 - \beta_{Ht}]) \quad \text{for } t = T, \dots, 1. \end{aligned}$$

The probability of each outcome depends only on the current balance of power between the dictator and the ruling coalition, b_t . Therefore, the equilibrium path in this game can be statistically represented by a discrete-time absorbing Markov chain in which the states $t = T, \dots, 1$ are transient, whereas the states established and rebellion are absorbing. Using the canonical form, the transition matrix is

$$\mathbf{P} = \begin{pmatrix} \mathbf{Q} & \mathbf{C} \\ \mathbf{0} & \mathbf{I} \end{pmatrix},$$

where \mathbf{Q} is a $T \times T$ matrix of transition probabilities for the states $t = T, \dots, 1$; \mathbf{C} is a $T \times 2$ matrix of transition probabilities from the T transient into the two absorbing states; $\mathbf{0}$ is a $2 \times T$ matrix of zeros; and \mathbf{I} is a 2×2 identity matrix.

The fundamental matrix $\mathbf{M} = (\mathbf{I} - \mathbf{Q})^{-1}$ exists and its first row denotes the expected time the dictator spends at each step of the power trajectory before he is either removed by a rebellion or becomes established.²¹ Continuing with the numerical example in the previous section, these expected times are 8.98, 3.49,

²⁰ On the study of the duration of dictators' tenures, see Bueno de Mesquita et al. (2003), Gandhi and Przeworski (2006, 2007), Gandhi (2008, Chap. 6), and Goemans (2008).

²¹ See, e.g., Trivedi (2002, Chap. 7).

1.47, 0.67, 0.32, 0.16, 0.08, 0.04, 0.02 for states $t = T, \dots, 1$, respectively. The distribution of these expected times illustrates how the ruling coalition's concern that the dictator may become established intensifies as he acquires more power. In terms of the expected time that the dictator spends at each step of his power trajectory, his transition from one step to the next accelerates as he acquires more power. Adding these expected times, we obtain the total expected time before the dictator is removed by a rebellion or becomes established; in our numerical example, this time is 15.23.

The first row of the product \mathbf{MC} contains the long-run distribution of the two absorbing states, *established* and *rebellion*. In the numerical example, we should expect that only 1 percent of dictators will become established autocrats, whereas the remaining 99 percent will be removed by a rebellion. However, this distribution depends on the number of steps that the dictator must take to become established. In our numerical example $T = 9$, but as many as 23 percent of dictators would become established if the dictator had to successfully renege only four times to become an established autocrat.

An important implication of this result for the statistical analysis of dictator tenures is that a positive fraction of dictators may stay in office for an arbitrarily long period. In real-world cases, of course, a dictator may be removed not only by a rebellion but also via alternative forms of exit, such as natural death, foreign intervention, or transition to democracy. Nevertheless, the present analysis implies that a positive fraction of existing dictators may at any time no longer be at the risk of losing power in a rebellion. Ignoring this possibility may lead to incorrect inferences about the effects of covariates on leader survival.²²

The probability distribution of time-to-rebellion implied by the present model is of particular empirical interest because of available data on the timing of dictators' removal from office. The coup d'état, defined in Chapter 2 as the removal of an authoritarian leader by his inner circle, is the closest empirical counterpart to allies' rebellions in this chapter. The probability distribution of time-to-rebellion can be obtained using the power method. For time $\tau = \{1, 2, \dots, \infty\}$, the probability distribution of time-to-rebellion is given in position $T + 2$ of the vector $\mathbf{p}_0 \mathbf{P}^\tau$, where \mathbf{p}_0 is the initial $1 \times (T + 2)$ probability vector $\mathbf{p}_0 = (1, 0, \dots, 0)$.²³ Thus under contested autocracy, the distribution of time-to-rebellion follows a generalized geometric distribution with a probability of success that decreases for $t = T, \dots, 1$. Its continuous-time analogue is the Weibull distribution with an increasing hazard rate (Ali Khan et al. 1989).²⁴ On the other hand, the probability density of time-to-established autocracy is given in position $T + 1$ of the vector $\mathbf{p}_0 \mathbf{P}^\tau$. It follows the

²² Survival techniques that account for the possibility that a fraction of observations may not be subject to the relevant risk – such as cure rate or split-population models – have been applied in political science by Box-Steffensmeier et al. (2005) and Svolik (2008).

²³ This result can be easily extended to the case of an arbitrary distribution of starting points by working with an initial vector that describes that distribution.

²⁴ This is the distribution of successful rebellions, but it is easy to see that the distribution of failed rebellions is also Weibull.

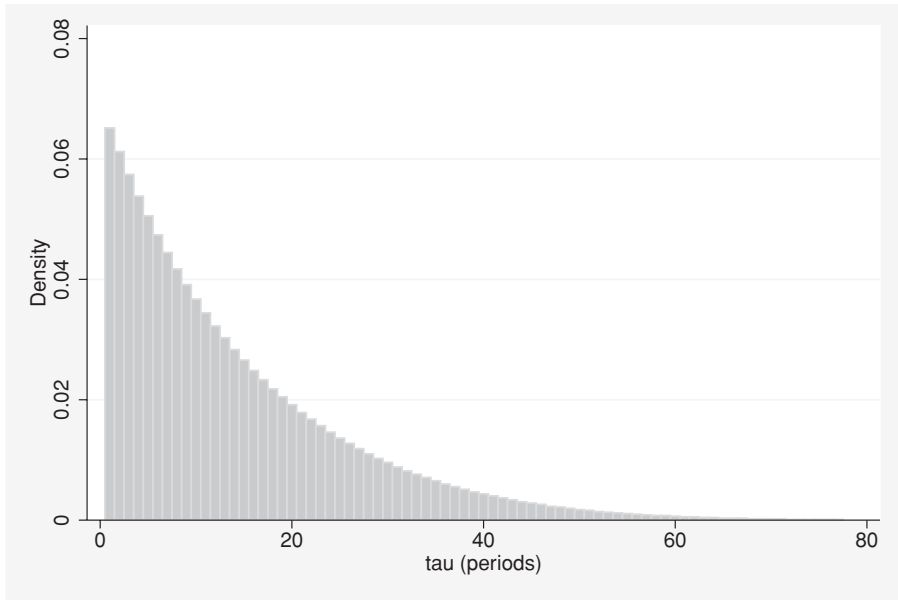


FIGURE 3.3. Probability density of time-to-rebellion based on the numerical example.

generalized negative-binomial distribution with T successes and a probability of success that decreases with $t = T, \dots, 1$. The equivalent continuous-time distribution is the generalized Gamma distribution (Gerber 1991).

To illustrate these results, I continue with the numerical example from Section 3.2 and plot the probability density of time-to-rebellion and time-to-established autocracy in Figures 3.3 and 3.4, respectively. We may compare this numerical illustration with the distribution of successful coups d'état based on actual data in Figure 3.5. The model in Section 3.2 implies a distribution of successful coups that reasonably reflects real-world data.²⁵

3.4 THE PATH TO PERSONAL AUTOCRACY AND AUTHORITARIAN EXIT FROM OFFICE

A key implication of the theoretical analysis in this chapter concerns the empirical association between the length of dictators' tenures and the manner by which they leave office.²⁶ The longer a dictator is in office, the more likely it is

²⁵ Understandably, existing large-N data do not record whether an autocracy is contested or established. We therefore should expect that observations of dictators' tenures contain both contested and established autocrats. Whereas both the hazard of time-to-established autocracy and time-to-rebellions are increasing over time, the hazard of a successful rebellion declines relative to that of the dictator becoming established after a certain threshold time. In my numerical example, that time is thirty-five years. We therefore should expect the hazard of successful rebellions to be first increasing and then decreasing in actual real-world data.

²⁶ Goemans (2008) comprehensively studies the manner in which leaders lose office across regime types.

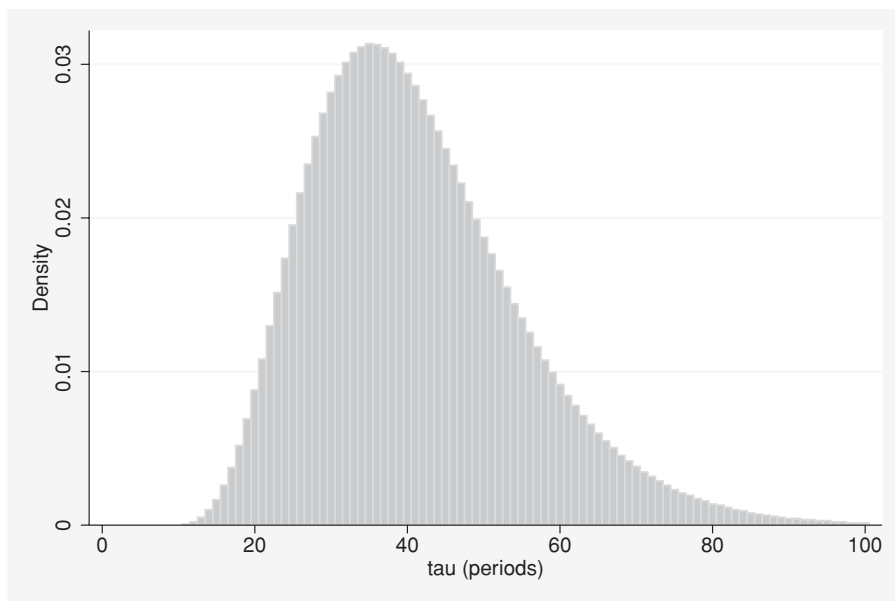


FIGURE 3.4. Probability density of time-to-established autocracy based on the numerical example.

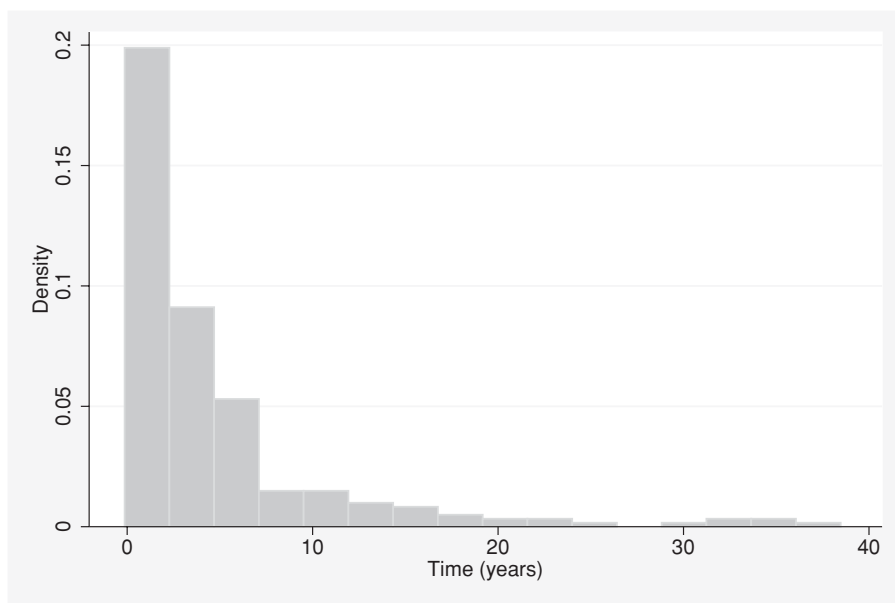


FIGURE 3.5. The empirical density of coups d'état, 1946–2008.

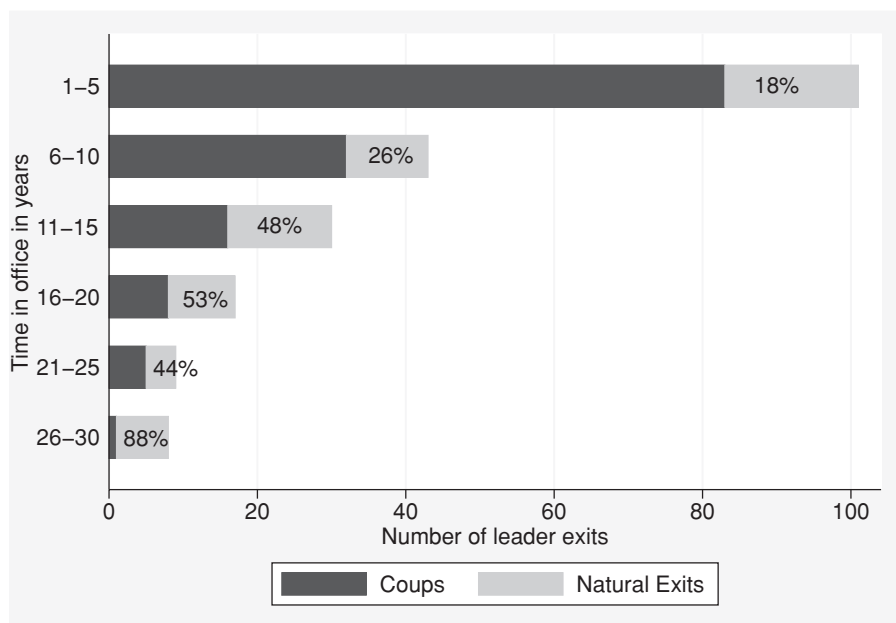


FIGURE 3.6. The improving odds of dying in bed, 1946–2008. *Note:* Percentages refer to natural exits as a fraction of both types of exits in each tenure interval.

that he is an established rather than a contested autocrat and the less likely it is that he will be removed from office by his inner circle. Hence long-lived authoritarian leaders should leave office more often in ways that are unrelated to their interaction with their inner circle, such as natural death, foreign intervention, or popular uprising.²⁷

To evaluate this prediction, consider how the relative risk of coups d'état and natural deaths varies across dictators with different tenure durations.²⁸ Figure 3.6 contrasts exits by coups to exits due to natural causes across six ordered, five-year intervals of tenure durations. Leaders who stayed in office for less than a year are not plotted because they may have been particularly vulnerable to coups. Leaders who stayed in office for more than thirty years also are excluded because only few of such long-serving leaders survive in any five-year tenure interval above thirty years and therefore may be unrepresentative.²⁹

Consistent with the model in this chapter, the total number of leaders that manage to survive in office declines over time. More importantly, Figure 3.6

²⁷ Nevertheless, there are examples of leaders (e.g., Haile Selassie of Ethiopia) who ruled for an unusually long time and managed to consolidate power in their hands but were later removed from office by their inner circle. The model in this chapter implies that such cases may occur but should be the exception rather than the rule.

²⁸ Luttwak (1968), O'Kane (1981), Londregan and Poole (1990), Galetovic and Sanhueza (2000), and Belkin and Schofer (2003) examine coups d'état empirically.

²⁹ There are 16, 44, and 4 leaders in the 31–35, 36–40, and 41–45 tenure intervals, respectively.

also shows that the fraction of leaders who leave office due to natural causes rather than a coup increases with the time that a dictator has been in office. This pattern is directly implied by the conceptual difference between contested and established autocracy outlined in this chapter.

Could the observed increase in natural exits from office be the consequence of an age-related increase in mortality rather than the consolidation of power by long-serving dictators? This is unlikely to be the case. Long-serving dictators are indeed older on average; the average age grows from 54 to 57, 60, 63, 67, and 68 across the six tenure-duration intervals shown in Figure 3.6.

However, an age-related increase in mortality is unlikely to be the primary cause of the observed increase in natural exits from office. Using information on dictators' dates of birth and death, I calculated their age at the time of death and estimated the age-related mortality among those who died of natural causes – whether in office or after leaving office. These estimates are based on the nonparametric Kaplan–Meier estimator and indicate that the difference between the average ages of two adjacent tenure intervals in Figure 3.6 corresponds to a mortality increase of only 5, 2, 6, 11, and 1 percent, respectively – that is, 5 percent on average. By contrast, the corresponding percentage of natural exits increases by 7, 22, 5, –8, and 43 percent – that is, 13.8 percent on average. Therefore, the most likely, primary cause of the improving odds of dying in bed observed among long-serving dictators is not related to their age but rather to the consolidation of power by established autocrats explored throughout this chapter.

3.5 CONCLUSION: THE MANAGEMENT OF ESTABLISHED AUTOCRACY

All principalities, Niccolò Machiavelli wrote in *The Prince*, are governed in two different ways. The first are governed “by a prince with all others as his servants” who merely assist him in governing and, if they are obeyed, it is “because they are his ministers and officials”; the second are governed “by a prince and by barons” who have their “own dominions” and “are recognized by their subjects.” In the Kingdom of the Turk, which is an example of the former according to Machiavelli, all ministers are “his slaves and bound to him.” However, the King of France, who is an example of the latter, cannot take away the privileges of the barons “without endangering himself” (Machiavelli 2005[1513], 16–17).

Machiavelli's distinction between these two types of principalities mirrors the two authoritarian power-sharing regimes examined in this chapter. Under contested autocracy, the dictator's allies are genuine political players who share power with him and constrain his choices. In established autocracies, they are in a position of fully subservient administrators and do not share power with the dictator in any meaningful sense. The analysis in this chapter highlights that the difference between the two comes down to answering a simple question: Are the dictator's allies capable of replacing him? This is a distinction that

may be obscured by the descriptively richer but also less analytically focused notions of personalist, neopatrimonial, and sultanistic regimes.

Nevertheless, no dictator governs alone. Even established autocrats – like Machiavelli's Turk – depend on their ministers and officials for governing: administration, repression, taxation, and so on. As Lewis (1978, 622) stated in his study of Antonio Salazar's ministerial elite, "regardless of how powerful dictators are, the complexities of modern society and government make it impossible for them to rule alone."

Hence even established autocrats are not entirely free of constraints on their authority. Even at the height of Stalin's dictatorship, according to Gorlizki and Khlevniuk (2006, 254), built-in forces continued pushing toward oligarchic or collegial rule and "found their expression in the relative autonomy of Politburo leaders in dealing with everyday operational issues. . . ." Such operational dependence raises the possibility that a talented vizier or general may turn into a rival if he becomes admired or perceived as indispensable. The dictator's operational dependence on his administrators thus contains the seeds of his political dependence.

Established autocrats counter that danger with a number of instruments: key administrators or military commanders are periodically purged, publicly humiliated, rotated across posts, or dismissed and later reappointed. Reports of systematic use of such practices date back to at least Mughal India and the Ottoman Empire (see, e.g., Debs 2007). One of the most prominent twentieth-century applications of these practices occurred in Mobutu Sese Seko's Zaire. According to a report by the journalist Blain Harden:

Conventional wisdom in Kinshasa says that besides Mobutu and his family only 80 people in the country count. At any one time, 20 of them are ministers, 20 are exiles, 20 are in jail and 20 are ambassadors. Every three months, the music stops and Mobutu forces everyone to change chairs.³⁰

Likewise, Gabonese President Omar Bongo frequently and unpredictably rotated, promoted, and dismissed his governors; Benito Mussolini referred to his cabinet reshuffles as "changing the guard" (Lewis 2002, 23); and Rafael Trujillo's penchant for arbitrary purges and reinstatements of leading government officials underpins the plot of Mario Vargas Llosa's celebrated novel, *The Feast of the Goat*.

According to most existing explanations, these practices protect the dictator by preventing administrators from establishing an independent power base (Jackson and Rosberg 1982; Migdal 1988; Quinlivan 1999; Debs 2007).³¹ Yet the analytical difference between contested and established autocrats outlined in this chapter suggests an alternative explanation, one that more closely mirrors the distinctive features of these practices.

³⁰ "Zaire's President Mobutu Sese Seko: Political Craftsman Worth Billions," *The Washington Post*, 10 November 1987.

³¹ Debs (2007) also examines the implication of these practices for economic development.

The conspicuous feature of these practices is not only the temporariness of political appointments but also the arbitrary and public nature of their abrogation: In most accounts, rotations, dismissals, or personal attacks come unexpectedly, without an objective rationale, and are accompanied by a campaign of public humiliation. This suggests that the common primary purpose behind these practices is to *publicly signal* the dictator's independence from his administrators. Thus following World War II, after the war's exigencies conferred a measure of bureaucratic autonomy on Stalin's associates, Stalin conducted a series of humiliating, arbitrary, and public attacks against his inner circle to restore the absolute leadership that prevailed before the war (Gorlizki and Khlevniuk 2004, Chap. 1).

That is, even if established autocrats depend on their administrators as a collective, they ensure that such dependence does not translate into the public perception that any *individual* administrator is indispensable. Hence whereas Saddam Hussein depended on the loyalty of the many Tikritis he favored in the country's administration, he nevertheless ensured that

... no single one of them or indeed grouping amongst them should be in a position to challenge him. Nor should any of them assume that they have a right to the favors dispensed by [him]. On the contrary, they are constantly reminded, through reassignment and through the granting of land and of economic concessions, as well as through the withdrawal of the same, that they are all creatures of the president. (Tripp 2000, 266–7)

Under established autocracy, the dictator's outward appearance of invincibility is as important as his actual power.

This is why personality cults are the hallmark – and primarily a consequence rather than the cause – of established autocracy. According to Suny (1997, 38), Stalin – who was short in stature, a mediocre speaker, and the “ultimate man of the machine” – did not project an image of a leader until one was created for him. Unlike regime propaganda, the purpose of which is to disseminate ideology, a personality cult aims to reinforce the dictator's paramount political standing. Thus Hafez al-Asad was the twentieth-century's Saladin (Wedeen 1999, 1); Saddam Hussein was the new Nebuchadnezzar (Karsh 2002, 152–3); and His Excellency, the Generalissimo, Doctor Rafael Leónidas Trujillo Molina, Honorable President of the Republic, Benefactor of the Nation, Restorer of the Financial Independence of the Country, and Commander-in-Chief of the Armed Forces was right next to God when his regime ordered that even churches display the slogan “God in Heaven, Trujillo on Earth” (López-Calvo 2005). Even more than that: The self-dubbed Light of Human Genius Kim Il Sung could control the weather with his mood (Oh and Hassig 2000, 4); Chairman Mao could swim nearly four times the world record (Harding 1997, 176); and Togo's Gnassingbé Eyadéma commanded superpowers in the comic books that his regime commissioned (Lamb 1984, 48).

Whereas an established autocrat boasts of supernatural powers, everyone else fades into anonymity. Thus at the peak of Mobutu Sese Seko's personality cult in 1974–1975, official media were banned from mentioning by name any

government figure other than Mobutu (Young 1985, 168). As one of Mobutu's ministers explained,

In our religion, we have our own theologians. In all religions, and at all times there are prophets. Why not today? God has sent a great prophet, our prestigious Guide Mobutu – this prophet is our liberator, our Messiah. Our Church is the [Popular Movement of the Revolution]. Its chief is Mobutu, we respect him like one respects the Pope. Our gospel is Mobutuism. This is why crucifixes must be replaced by the image of our Messiah. (Young 1985, 168–9)

The arguments in this chapter illuminate why the astounding absurdity of personality cults fails to undermine their effectiveness, as observers frequently wonder.³² On the contrary, it serves to reinforce the political message behind personality cults: “In this regime, only one person counts!”

This is the first of two chapters that focus on the problem of authoritarian power-sharing. Throughout this chapter, I have focused on the threat of an allies' rebellion as the unique, coercive mechanism available to a ruling coalition that faces an opportunistic dictator. We saw that even under contested autocracy, the threat of rebellion by the ruling coalition remains tenuous, only imperfectly deterring a dictator's opportunism. It thus echoes Aristotle's warning in the epigraph to Chapter 1 about the dangers of oligarchs falling out among themselves. The instability of power-sharing is a consequence of the distinctive, dismal conditions under which authoritarian power-sharing takes place. Authoritarian elites cannot rely on an independent authority to enforce their agreements about sharing power, they may use violence to resolve mutual conflicts, and they typically operate under a shroud of secrecy.

Although the first two of these factors are beyond the control of authoritarian elites, the last – secrecy in power-sharing – might be reduced, if not eliminated, by adopting appropriate political institutions. Section 3.2, for instance, explains that secrecy exacerbates the moral hazard in authoritarian power-sharing, thereby undermining its success. The equilibrium dynamics under contested and established autocracies therefore may be considered a benchmark for feasible authoritarian power-sharing in settings that lack political institutions, suggesting one rationale for political institutions in dictatorships: Regular interaction within governing councils, legislatures, or parties may allow the governing authoritarian elite to reassure one another that none of them is trying to acquire more power at the others' expense. I investigate this potential contribution of institutions to the stability of authoritarian rule in the next chapter.

3.6 APPENDIX: PROOFS

This appendix provides details of the formal results in Section 3.2.

³² See, e.g., “Toughs at the Top,” *The Economist*, 18 December 2004.

Proposition 3.1. *As explained previously, there is no equilibrium in which the dictator uses a pure strategy and the ruling coalition conditions its decision to rebel on the observed signal.*

In any equilibrium in mixed strategies, (1) the ruling coalition rebels with probability β_θ such that given the correlation between his actions and the signal θ , the dictator is indifferent between reneging and complying; and (2) the dictator reneges with probability α such that the ruling coalition is indifferent between rebelling and not rebelling after observing a high signal or a low signal, but not both.

Note that the ruling coalition cannot be indifferent between rebelling and not rebelling after both a high and a low signal: If the dictator chooses such α as to make the ruling coalition indifferent between rebelling and not rebelling after observing a high signal, then the ruling coalition will prefer not to rebel after observing a low signal. Alternatively, if the dictator chooses such α as to make the ruling coalition indifferent between rebelling and not rebelling after observing a low signal, then the ruling coalition will prefer to rebel after observing a high signal.

Thus for the ruling coalition, only the actions $(\beta_L = 0, \beta_H > 0)$ and $(\beta_L > 0, \beta_H = 1)$ can be parts of an equilibrium. To obtain the equilibrium action profile, we solve for the indifference conditions.

In the case of $(\beta_L = 0, \beta_H > 0)$, we have

$$\beta_H^* = \frac{\mu}{\rho [\pi_{Hr}(1 + \mu) - \pi_{Hc}]} \quad \text{and} \quad \alpha^* = \frac{\pi_{Hc}}{\pi_{Hc} + \pi_{Hr} \left(\frac{\epsilon}{1-\rho} - 1 \right)}. \quad (3.5)$$

To verify that $\beta_L^* = 0$, it must be true that the ruling coalition prefers not to rebel after it observed a low signal,

$$\rho \leq \Pr(d|L)(1 - \epsilon) + 1 - \Pr(d|L). \quad (3.6)$$

After substituting α^* into

$$\Pr(d|L) = \frac{\pi_{Ld}\alpha^*}{\pi_{Ld}\alpha^* + \pi_{Lc}(1 - \alpha^*)},$$

inequality (3.6) can be reduced to

$$-\frac{(\pi_{Hr} - \pi_{Hc})(1 - \rho)[\rho - (1 - \epsilon)]}{\epsilon(\pi_{Hr} - \pi_{Hc}\pi_{Hr}) - (1 - \rho)(\pi_{Hr} - \pi_{Hc})} \leq 0,$$

which holds as long as $\rho \geq 1 - \epsilon$.

In the case of $(\beta_L > 0, \beta_H = 1)$, the indifference condition implies

$$\beta_L^{**} = \frac{\pi_{Hr} - \pi_{Hc} - \left(\frac{1}{\rho} - \pi_{Hr}\right)\mu}{\pi_{Hr} - \pi_{Hc} - (1 - \pi_{Hr})\mu} \quad \text{and} \quad \alpha^{**} = \frac{1 - \pi_{Hc}}{\pi_{Hr} - \pi_{Hc} + (1 - \pi_{Hc}) \left(\frac{\epsilon}{1-\rho} \right)}.$$

To verify that $\beta_H^{**} = 1$, it must be true that the ruling coalition prefers to rebel after it observed a high signal,

$$\rho \geq \Pr(d|H)(1 - \epsilon) + 1 - \Pr(d|H). \quad (3.7)$$

After substituting α^{**} into

$$\Pr(d|H) = \frac{\pi_{Hr}\alpha^{**}}{\pi_{Hr}\alpha^{**} + \pi_{Hc}(1 - \alpha^{**})},$$

inequality (3.7) can be reduced to

$$\frac{(\pi_{Hr} - \pi_{Hc})(1 - \rho)[\rho - (1 - \epsilon)]}{(\pi_{Hr} - \pi_{Hc})(1 - \rho) + \pi_{Hc}(1 - \pi_{Hr})\epsilon} \geq 0,$$

which holds as long as $\rho \geq 1 - \epsilon$.

Moreover, the expected payoff to *both* the dictator and the ruling coalition is greater in the equilibrium with $(\beta_L = 0, \beta_H > 0)$ than it is in the equilibrium with $(\beta_L > 0, \beta_H = 1)$. In the equilibrium with $(\beta_L = 0, \beta_H > 0)$, the expected payoff to the dictator is

$$\frac{b(\pi_{Hr} - \pi_{Hc})(1 + \mu)}{\pi_{Hr} - \pi_{Hc} + \pi_{Hr}\mu},$$

and it is

$$\frac{b(\pi_{Hr} - \pi_{Hc})(1 - \rho)(1 + \mu)}{\pi_{Hr} - \pi_{Hc} - \mu(1 - \pi_{Hr})}$$

in the equilibrium with $(\beta_L > 0, \beta_H = 1)$. The difference between the former and the latter is

$$(\pi_{Hr} - \pi_{Hc})(1 + \mu)(1 - \rho) \frac{\rho(\pi_{Hr} - \pi_{Hc}) - \mu(1 - \rho\pi_{Hr})}{[\pi_{Hr}(1 + \mu) - \pi_{Hc}][\pi_{Hr} - \pi_{Hc} - \mu(1 - \pi_{Hr})]},$$

which is positive as long as Assumption 3.1 is satisfied.

In the equilibrium with $(\beta_L = 0, \beta_H > 0)$, the expected payoff to the ruling coalition is

$$\frac{(\pi_{Hr} - \pi_{Hc})[\rho - (1 - \epsilon)] + \pi_{Hc}\epsilon\rho}{(\pi_{Hr} - \pi_{Hc})[\rho - (1 - \epsilon)] + \pi_{Hc}\epsilon},$$

and it is ρ in the equilibrium with $(\beta_L > 0, \beta_H = 1)$. The difference between the former and the latter is

$$\frac{(\pi_{Hr} - \pi_{Hc})(1 - \rho)[\rho - (1 - \epsilon)]}{(\pi_{Hr} - \pi_{Hc})(1 - \rho) + \pi_{Hr}\epsilon},$$

which is positive as long as $\rho \geq 1 - \epsilon$. Thus *both* the dictator and the ruling coalition prefer the equilibrium in which $(\beta_L = 0, \beta_H > 0)$ to the equilibrium in which $(\beta_L > 0, \beta_H = 1)$. This concludes all proofs associated with Proposition 1.

Proposition 3.2. *Recall that the probability of successful power-sharing is*

$$\begin{aligned} \Pr(\text{Successful Power-Sharing}) &= (1 - \alpha^*) [\pi_{Hc}(1 - \beta_H^*) + (1 - \pi_{Hc})] \\ &= (1 - \alpha^*)(1 - \pi_{Hc}\beta_H^*). \end{aligned} \quad (3.8)$$

We saw that under contested autocracy with $(\beta_L = 0, \beta_H > 0)$, both the probability that the dictator reneges (α^*) and the probability that the ruling coalition rebels after observing a high signal (β_H^*) increase as the balance of power (b) shifts in the dictator's favor. In turn, the probability of successful power-sharing is decreasing in the dictator's power.

The probability that the dictator successfully reneges is

$$\begin{aligned} \Pr(\text{Successful Reneging}) &= \alpha^* [\pi_{Ld} + \pi_{Hr}(1 - \beta_H^*) + \pi_{Hr}\beta_H^*(1 - \rho)] \\ &= \alpha^*(1 - \pi_{Hr}\rho\beta_H^*). \end{aligned}$$

Substituting α^* and β_H^* from (3.5), we obtain

$$\Pr(\text{Successful Reneging}) = \frac{b\pi_{Hc}(\pi_{Hr} - \pi_{Hc})}{[\pi_{Hr}\epsilon - b(\pi_{Hr} - \pi_{Hc})][\pi_{Hr}(1 + \mu) - \pi_{Hc}]}.$$

Finally, differentiating with respect to b , we obtain

$$\frac{\partial \Pr(\text{Successful Reneging})}{\partial b} = \frac{\pi_{Hc}\pi_{Hr}(\pi_{Hr} - \pi_{Hc})\epsilon}{[\pi_{Hr}\epsilon - b(\pi_{Hr} - \pi_{Hc})]^2[\pi_{Hr}(1 + \mu) - \pi_{Hc}]} > 0.$$

Thus the probability that the dictator successfully reneges is increasing in his power.

Proposition 3.3. *By inspection of (3.5), we see that both α^* and β_H^* are decreasing in π_{Hr} and increasing in π_{Hc} . To see that α^* is increasing in π_{Hc} , differentiate α^* with respect to π_{Hc} to obtain*

$$\frac{\partial \alpha^*}{\partial \pi_{Hc}} = \frac{\pi_{Hr}b(\epsilon - b)}{[\pi_{Hr}(\epsilon - b) + \pi_{Hc}b]^2} > 0.$$

In turn, the probability of successful power-sharing in (3.8) is increasing in π_{Hr} and decreasing in π_{Hc} .