

Toward a Structural Understanding of Coup Risk

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Although coup risk plays an important role in theories of war, revolution, and democratization, scholars have not developed a rigorous conceptualization and valid measure of the concept. We develop a structural understanding of coup risk as distinct from proximate causes of coups as well as coup-proofing strategies that regimes implement to avert coups. Theoretical insights into factors that predispose regimes toward coup vulnerability provide the groundwork for an improved measure based on strength of civil society, legitimacy, and past coups. Cross-national statistical analyses are used to significantly improve on previous coup-incidence models and highlight deficiencies of the common approach to measuring coup risk. The structural conceptualization of coup risk enhances understanding of broader civil-military dynamics, in particular the well-known distinction between motives and opportunities for launching coups. This distinction is shown to be insensitive to an important observational equivalence: that coups may be rare in both high-and low-risk cases.

Keywords: *coup d'état; civil-military relations; coup risk; democratization; domestic instability*

In one form or another, coup risk plays an important role in prominent theories of war, revolution, and democratization. Although coup risk may appear to be a straightforward phenomenon, few scholars have attempted to develop a rigorous conceptualization and valid measure of the concept, and its operationalization is far from self-evident. Consider, for example, that neither Syria nor France has experienced a successful coup in more than thirty years: Syria's last successful coup occurred in 1970, whereas France's took place in 1958. Even though neither country has experienced a coup for decades, specialists would agree that coup risk remains much higher in Syria than in France. What does it mean to say that coup risk is higher in Syria than in France? And, is it possible to develop an indicator of coup risk that captures this difference?

In this study, we develop a structural conceptualization of coup risk as distinct from proximate triggering causes of coups and coup-proofing strategies that regimes implement to avert impending coups. In other words, we conceptualize coup risk as a func-

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tion of deep, structural attributes of government, society, political culture, and state-society relations, whereas triggers are short-term crises that precipitate a coup. Theoretical insights into factors that predispose regimes toward vulnerability to a coup provide the groundwork for constructing an improved measure of coup risk based on three factors that reflect underlying structural risk: the strength of civil society, regime legitimacy, and the past history of coups.¹ After discussing the importance and meaning of coup risk, we analyze the literature's failure to conceptualize and measure it in a satisfying way, propose our own operationalization, and use cross-national statistical analyses to demonstrate the utility of our indicator for predicting various phenomena and state activities that are thought to result from coup risk.

Our measure proves to be a powerful predictor of coups, and our statistical analysis significantly improves on previous coup-incidence models in the literature. In addition, our analyses highlight the deficiencies of the common approach to measuring coup risk. Finally, results suggest that the structural conceptualization of coup risk that we develop here has implications for understanding broader civil-military dynamics. In particular, our analysis shows that the well-known distinction in the civil-military relations literature between motives and opportunities for launching a coup is insensitive to an important observational equivalence—that in both high-risk and low-risk cases, the actual incidence of coups can be low.

THE IMPORTANCE OF COUP RISK

Many important theories of war, revolution, and democratization include coup risk. To take a few examples from the literature on domestic causes of war, Huth and Russett (1993, 66) argue that leaders who fear a coup may use foreign aggression to promote a rally-round-the-flag effect. Levi and Vakili (1992, 122) trace the origins of the Falklands crisis between Britain and Argentina in part to fears of a coup within the ruling junta in Buenos Aires. And Walt (1994, 34-35) argues that revolutionary governments may be particularly likely to become involved in a war when leaders exaggerate foreign threats to improve their own internal positions against domestic challengers. Although the authors of the diversionary war literature locate the causes of international conflict in many types of domestic instability, coup risk is one important factor that can prompt leaders to use aggressive foreign policy for domestic purposes.

According to some of the literature on the origins of revolutions, regimes that are not vulnerable to a coup may not have to fear revolution. As long as regimes are able to retain the loyalty of the military, revolutionary opponents usually are unable to displace leaders who control the government (Chorley 1943; Gurr 1967, 1970, 251; Russell 1974; Skocpol 1979). For example, coup risk appears to play an important mediating role in Skocpol's (1979) analysis of the French, Russian, and Chinese revolutions. She argues that "before social revolutions could occur, the administrative and military power of these states had to break down" (p. 285). In Russia, the strains of wartime

1. Coup risk refers to the probability of a coup attempt (whether or not successful), not to the probability of a successful coup. We do not explain the success rates of coups.

defeat and domestic economic chaos led to a military mutiny in Petrograd in March 1917 that culminated in the overthrow of the Romanov autocracy (p. 98). Skocpol shows that the origins of the Russian revolution must be understood in terms of many factors unrelated to military loyalty but that coup risk is an important part of the story.

Finally, coup risk plays an important theoretical role in the literature on democratic transitions (Fitch 1998; Diamond and Plattner 1996). Indeed, although few experts on democratic breakdown and consolidation focus exclusively or even primarily on the armed forces, some elements of this literature concern the effects and management of coup risk. For example, Linz (1978, 54, 58-60, 71) says that one of the most reliable indicators of the breakdown of democracy is "when the regime needs to be reassured of the loyalty of the forces." In turn, theories of democratic consolidation emphasize various factors that determine whether civilians are able to convince the armed forces to return to and stay in the barracks (Linz and Stepan 1996; Snyder 1992).

In addition to its theoretical importance, high coup risk is important because leaders must respond to it by implementing coup-proofing strategies, such as ethnic stacking and bribery, to subordinate the armed forces (Quinlivan 1999; Farcau 1994, 188-98; Pion-Berlin 1992; Zagorski 1992, 75-83; Welch 1976, 313-27; Feaver 1995, 1996, 24-33). Although some of these strategies, such as ideological indoctrination, may be relatively benign, in many cases leaders sabotage their own militaries and state-building projects to protect themselves from the risk of a coup (Migdal 1988). When leaders stack the armed forces with loyalists rather than relying on merit-based standards for promotion; when they shuffle, arrest, and even execute officers on a frequent basis to prevent potential challengers from developing a stable base of followers; and when they divide their armies into numerous, mutually suspicious rival forces that check and balance one another, they may sacrifice organizational effectiveness to minimize the chances of a successful coup. In Iraq, for example, Saddam Hussein executed generals who were successful in combat to prevent them from using their popularity to challenge the regime.

When control strategies fail, the consequences of high coup risk can be disastrous. Although many coups and attempted coups do not entail bloodshed, between one-fifth and one-third of them do involve substantial violence, including execution of members of the displaced old guard (Zimmermann 1983, 241). Although the numbers vary slightly depending on counting methods, there were approximately 357 attempted coups in the developing world from 1945 to 1985, and about half of all third world states experienced a coup during this period. Of these attempts, 183 coups (or 51%) were successful (David 1985, 1987; Finer 1983). More recently, militaries staged 75 coups and coup attempts between 1986 and 2000.

Despite its theoretical and political significance, however, the importance of conceptualizing and measuring coup risk may not be apparent. Indeed, we suppose that most regional specialists already know whether governments in their areas of expertise are vulnerable to the possibility of a military coup. Even though some coups surprise the experts, most specialists probably are aware of the level of coup risk in the countries they study. Far from simply guessing or "eye-balling" the issue, regional experts draw on extensive cultural and political knowledge about the armed forces, state strength, and civil-military relations. And in addition to drawing on case-specific

information, their assessments of coup risk may rely in part on tacit or explicit knowledge of various theories of the causes of coups d'état that we address below. Even though regional specialists may be able to assess the level of coup risk in areas that they study, we argue below that the literature on civil-military relations has not done an adequate job of conceptualizing the meaning of coup risk and that there has been no successful effort to develop a quantitative indicator of coup risk for scholars who engage in large-*n* theory testing. Hence, scholars who wish to use coup risk as an independent or dependent variable in quantitative analysis have very few tools at their disposal.

LIMITATIONS OF PREVIOUS CONCEPTUALIZATION OF COUP RISK

One commonly accepted distinction in the literature on civil-military relations involves the difference between motives and opportunities for launching a coup (Hibbs 1973; Huntington 1968; Finer 1988; Luttwak 1968). For example, Finer (1988, 64-76) distinguishes between opportunities and motives and argues that opportunities for launching a coup result from three factors, including civilian dependence on the armed forces during wartime, domestic crises such as civil wars or power vacuums, and military popularity. In a similar vein, Luttwak (1968, 28-56) identifies three preconditions that make coups possible: only a small fraction of the population can participate in the political life of the target state, the target state must be independent of the influence of foreign powers that could thwart attempted conspiracies, and the institutions of state must be concentrated in a political center. Zimmermann (1983, 246) distinguishes between "push" factors that motivate military officers to launch coups from "pull" factors that refer to conditions that make coups possible. Despite slight differences in terminology, Finer, Luttwak, and Zimmermann all accept the conventional distinction in the literature between motives and opportunities.

At first glance, "the opportunities for launching a military coup" may appear to be equivalent to coup risk. We suggest, however, that coup risk and opportunities for launching a military coup are not necessarily equivalent. More specifically, the opportunity for launching a coup conflates two distinct phenomena. On one hand, opportunities for launching a coup may reflect the level of structural coup risk. In the United States, for example, the lack of opportunities for launching a coup reflects low coup risk that, in turn, results from the robustness of civilian institutions, the rule of law, the freedom of the press, and other related factors. On the other hand, opportunities for launching a coup may reflect the effectiveness of coup-proofing strategies that leaders have implemented for subordinating the armed forces. This is the case in Syria, where patronage, counterbalancing, and ethnic stacking have blocked successful coups for more than three decades. In other words, many militaries, including Syria's, lack opportunities for launching a coup not because coup risk is low but rather because of the effectiveness of coup-proofing strategies that leaders have implemented. These regimes remain structurally vulnerable because failure to continue to implement coup-proofing strategies probably would lead to subsequent conspiracies. In both high-coup-risk and low-coup-risk cases, then, the actual incidence of coups may be low, and

as a result, coup risk cannot be measured exclusively in terms of the number of recent military conspiracies. Whether a military has opportunities for launching a coup is not necessarily equivalent to the level of coup risk.

This observational equivalence (that both high-coup-risk and low-coup-risk cases may not have coups) calls into question the validity of the other measure of coup risk that we find in the literature. Bueno de Mequita, Siverson, and Woller (1992) conceptualize regime vulnerability in terms of the number of coups that have taken place in the previous 10 years. Although past coups certainly can be an indicator of coup risk as well as a predictor of future coups, this conceptualization of coup risk may be flawed for the reason specified above: even regimes that have survived for decades without experiencing a coup may be highly at risk as a result of underlying structural factors that continue to make coups possible. A high number of past coups certainly indicates that future coups are possible. However, a low number of past coups may reflect effective coup-proofing rather than the absence of underlying risk factors. Specifying current risk as an exclusive function of the number of past coups also fails to capture factors behind a country's first coup. Hence, vulnerable regimes that have not yet experienced their first coup might be coded erroneously as not at risk.

In Figure 1, we classify regimes in terms of four categories that depend on the level of coup risk and the extent to which leaders have implemented effective coup-proofing strategies. As we suggest in Figure 1, we expect most coups to occur in the lower-left quadrant, in which coup risk is high and coup-proofing is either absent or ineffective. Before addressing these issues at greater length, however, we explain what we mean by the term *coup risk*.

CONCEPTUALIZATION: COUP RISK = PRESENCE OF STRUCTURAL CAUSES OF COUPS

We understand coup risk as a reflection of structural, background causes that make coups possible rather than immediate, triggering causes that precipitate specific coups. In other words, we conceptualize coup risk as a function of deep, structural attributes of government, society, political culture, and state-society relations, whereas triggers are short-term crises that precipitate a coup. Triggers are not the source of the original risk, and in the absence of structural causes, the presence of triggering factors alone cannot lead to a coup. Hence, triggers should not be equated with coup risk. Rather, they are factors that may determine the exact timing of a coup in regimes that suffer from high coup risk. Both structural and triggering causes of coups are factors that are linked through theoretical mechanisms as well as statistical correlation to the incidence of military conspiracies. The distinction between them is similar to the difference between cholesterol that increases the long-term risk of a heart attack versus jogging or a stressful event that might induce a specific attack.

Three guidelines that help distinguish between structural and triggering causes are (a) structural causes of coups tend to change slowly, whereas triggering causes can be quite fickle; (b) structural causes tend to be more deeply embedded in the political system than triggering causes; and (c) triggering causes tend not to precipitate coups in the

		Regime Coup-Proofing Efforts	
		Low or ineffective	High and effective
Level of Coup risk	Low	<p>Coups are very rare because structural causes of coups are absent.</p> <p>Example: industrialized western states</p>	<p>No regimes should be found in this category. Given that structural causes of coups are absent, regimes have no need to implement coup-proofing strategies.</p>
	High	<p>Coups extremely frequent because structural causes of coups are present and regimes fail to implement effective coup-proofing / survival strategies.</p> <p>Example: Syria in the 1950s and 1960s</p>	<p>Coups are somewhat uncommon. Structural causes of coups are present but regimes implement effective coup-proofing / survival strategies</p> <p>Example: Syria under Asad</p>

Figure 1: Coup Risk, Coup-Proofing, and the Incidence of Coups: A 2×2 Conceptualization

absence of structural causes. For example, we characterize individual officers' grievances as triggering causes because they can change quite suddenly; they are not structural, institutional features of the regime; and they do not lead to coups in regimes that are not already structurally vulnerable. On the other hand, we characterize the political legitimacy of the regime as a structural cause because it tends to reflect factors that require years to develop. Even though legitimacy can change quickly in some cases, usually it reflects more embedded considerations, such as political stability and the history of peaceful political transitions. Indeed, Jackman (1993) argues that the age of the political system can be used as a proxy indicator for legitimacy because roles and rules take time to consolidate. The theoretical distinction between structural and triggering causes can be fuzzy because many factors, such as civil wars, can provide long-term, structural opportunities that make coups possible and can also trigger a specific coup. Although some determinants, such as civil wars, can constitute both structural and immediate causes, we maintain that there is at least a conceptual difference between the two types of causes.

Coup risk can vary along a range of values. For the purposes of explanation, however, it is useful to temporarily suspend the notion of coup risk as a continuous variable, to briefly conceptualize coup risk dichotomously, and to point to the difference between high-coup-risk and low-coup-risk regimes. We suggest that the difference

between vulnerable (high coup risk) and invulnerable (low coup risk) regimes is that the structural causes of coups are present in vulnerable regimes and absent in invulnerable regimes. Because of the presence of structural causes in vulnerable regimes, coups may be possible if leaders fail to implement effective coup-proofing strategies to protect themselves. By contrast, there is low probability of a coup in regimes such as the United States. Regardless of military preferences or the degree to which service members might be alienated from the regime, there is very little possibility of a military conspiracy that would replace the incumbents who control the government in low-coup-risk regimes. Such regimes are structurally invulnerable to the armed forces, and their leaders need not implement coup-proofing strategies to protect themselves from their own militaries. It is possible and even likely that leaders of structurally invulnerable regimes may face a variety of challenges in the realm of civil-military relations. But reducing the risk of a coup is not one of those challenges.

A STRUCTURAL INDICATOR OF COUP RISK

We attempt to improve on Bueno de Mesquita, Siverson, and Woller's (1992) coup risk indicator by building an alternative measure based on structural causes of coups. Which specific structural causes should be included in our indicator? The literature on the causes of coups d'état is vast. In Table 1, we include 21 different causes (Zimmermann 1983, 284; Farcau 1994; Finer 1988; Nordlinger 1977; Putnam 1967; Huntington 1968).

Of the 21 causes of coups, 7 are triggering causes, whereas 5 can be classified as both triggering and structural causes. Because of our conviction that the indicator of coup risk should consist exclusively of structural factors, only 9 of the original 21 causes are candidates for inclusion. As we considered the remaining 9 structural causes of coups to determine which factors to include in our coup risk indicator, we were guided by three criteria: (1) The factor must be linked by a compelling theoretical mechanism to the incidence of coups. (2) For practical reasons, we considered only factors that can be measured on a large-*n* basis for every country in the world. (3) There must be a statistically significant positive correlation to link the factor with the incidence of coups.² Although we wanted to follow selection procedures that were as theory-driven as possible, we thought our indicator would lack credibility if it included several factors known to be negatively related to coups.

On the basis of these guidelines, we excluded six of the remaining nine causes from consideration. The class composition of the officer corps is difficult to measure on a large-*n* basis. Military size has been cited by a few scholars as a cause of coups, but on balance, the civil-military literature (e.g., Finer 1988) questions the plausibility of the theoretical link connecting military size to the incidence of coups. Many plausible the-

2. There is a debate in the philosophy of science literature as to whether a factor must be positively associated with an outcome to be thought of as its cause (Skyrms 1988). We side with the part of the literature, well summarized by Dawes (1996), that argues that a factor must be positively associated with an outcome to be thought of as its cause.

TABLE 1
Background and Triggering Causes of Coups

<i>Cause of Coup</i>	<i>Background or Triggering Cause?</i>	<i>Linked by Compelling Theoretical Mechanism to Coups?</i>	<i>Quality of Statistical Evidence Correlating this Factor with Coups</i>	<i>Possible to Measure Large-n?</i>	<i>Reason for Exclusion from Coup Risk Indicator</i>	<i>Citations</i>
Officers' personal grievances	Triggering	Yes	Poor	No	Not a background cause. Very difficult to measure on a large-n basis. Almost every military includes some officers who disfavor regime at any particular time.	Thompson (1973, 1980), Farcau (1994), Decalo (1976)
Military organizational grievances	Triggering	Yes	Poor	No	Not a background cause. Very difficult to measure on a large-n basis. All militaries have grievances.	Thompson (1973), Nordlinger (1977)
Military popularity	Triggering	Yes	Poor	No	Not a background cause. Very difficult to measure on a large-n basis.	Finer (1988)
Military attitudinal cohesiveness	Triggering	No	Poor	No	Not a background cause. Very difficult to measure on a large-n basis. Theoretical link between cohesion and coups is weak.	Fossum (1968), Thompson (1976)
Economic crisis or decline	Triggering	Yes	Poor	Yes	Not a background cause. Evidence in support of the link between economic crises and coups is mixed.	Fossum (1967)

(continued)

TABLE 1 (continued)

<i>Cause of Coup</i>	<i>Background or Triggering Cause?</i>	<i>Linked by Compelling Theoretical Mechanism to Coups?</i>	<i>Quality of Statistica Evidence Correlating this Factor with Coups</i>	<i>Possible to Measure Large-n?</i>	<i>Reason for Exclusion from Coup Risk Indicator</i>	<i>Citations</i>
Domestic political crisis	Triggering	Yes	Poor	Yes	Not a background cause.	Hibbs (1973), Luttwak (1979), Finer (1988)
Contagion from other regional coups	Triggering	Yes	Poor	Yes	Not a background cause. Theoretical link between contagion and coups leaves several important questions unanswered.	Lieuwen (1962); Pitcher, Hamblin, and Miller (1978)
External threat	Triggering and background	Yes	Poor	Yes	Difficult to classify as purely triggering or background cause.	Desch (1999)
Participation in war/military defeat	Triggering and background	Yes	Good	Yes	Difficult to classify as purely triggering or background cause. Many countries that do not engage in war experience high coup risk.	Bueno de Mesquita, Siverson, and Woller (1992)
Foreign veto power	Triggering and background	Yes	Poor	Yes	Difficult to classify as purely triggering or background cause. Foreign powers can sponsor as well as obstruct coups.	Zimmermann (1983, 275-76)
Military's national security doctrine	Triggering and background	Yes	Poor	No	Difficult to classify as purely triggering or background cause. Difficult to measure on large-n basis.	Stepan (1971, 1978)

Officers' political culture and level of professionalism	Triggering and background	Maybe	Poor	No	Many professional militaries have launched coups and many unprofessional militaries have refrained from launching coups. Difficult to measure on large-n basis.	Huntington (1957), Stepan (1978)
Political institutions insufficient for channeling participation	Background	Yes	Poor	Yes	Very little evidence to support Huntington's (1968) praetorianism theory.	Huntington (1968), Zimmermann (1983, 257-63)
Colonial legacy	Background	Yes	Poor	Yes	This factor is incapable of distinguishing between many different types of politics in developing world.	Finer (1970), Thompson (1975)
Economic development/wealth	Background	Yes	Mixed	Yes	Wealth can both cause and impede coups.	Janowitz (1964), Hoadley (1973, 1975), Morrison and Stevenson (1974), Londregan and Poole (1990)
Lack of diversification in exports	Background	Yes	Poor	Yes	Evidence in support of export diversification as a cause of coups is mixed.	O'Kane (1987)
Officers' class composition	Background	Yes	Poor	No	Very difficult to measure officers' class composition on a large-n basis.	Huntington (1968), Janowitz (1960)
Military size	Background	No	Poor	Yes	Theoretical link between military size and incidence of coups is not compelling.	Feit (1973), Bienen (1969)
Strength of civil society	Background	Yes	Good	Yes	Included. Near universal consensus that despite several counterexamples, strong civil society tends to deter military from launching coups.	Hibbs (1973), Putnam (1967), Fossum (1967), Hoadley (1973)

(continued)

TABLE 1 (continued)

<i>Cause of Coup</i>	<i>Background or Triggering Cause?</i>	<i>Linked by Compelling Theoretical Mechanism to Coups?</i>	<i>Quality of Statistica Evidence Correlating this Factor with Coups</i>	<i>Possible to Measure Large-n?</i>	<i>Reason for Exclusion from Coup Risk Indicator</i>	<i>Citations</i>
Regime legitimacy	Background	Yes	Good	Yes	Included. Near universal consensus that legitimacy deters the military from attempting to launch a coup.	Linz (1978), Sutter (1999), Welch (1976), Finer (1988, 77-126), Putnam (1967), Nordlinger (1977)
Past coups	Background	Yes	Good	Yes	Included. Near universal consensus that past coups often are a cause of future coups.	Londregan and Poole (1990); Bueno de Mesquita, Siverson, and Woller (1992); Hibbs (1973)

ories could be invoked to connect the legacy of colonialism with the incidence of coups. Despite this, as Zimmermann (1983) notes, "there is no general legacy factor." In other words, colonial legacy is underspecified and, in fact, refers to many causal factors, such as legitimacy, strength of civil society, and wealth that are already included in our list of predictors. Hence, we excluded it from our measure. Praetorianism, the ability of institutions to channel political participation, may be connected to coup incidence by a theoretically intuitive mechanism (Huntington 1968). At the same time, however, both the internal and external validity of Huntington's (1968) praetorianism thesis have been widely questioned, and one reviewer noted that "the empirical evidence in favor of his theory is meager, to say the least" (Zimmermann 1983, 262). Although one scholar (O'Kane 1987) has argued that high export concentration may cause coups when global economic fluctuations destabilize developing world regimes, evidence in support of this proposition is mixed, and there is no overwhelming consensus in the literature as to this factor's importance or validity. Finally, as several scholars, such as Londregan and Poole (1990), have demonstrated, wealth may be theoretically connected to coup incidence. However, we exclude wealth from our measure because it can cause as well as impede coups (Janowitz 1964). Specifically, research suggests that among poor countries, increasing wealth tends to cause coups, whereas among moderately wealthy countries, increasing wealth tends to diminish coup incidence (Zimmermann 1983, 252). Having eliminated the six factors discussed above, we included three structural causes of coups that met our guidelines: the strength of civil society, the legitimacy of the regime, and the impact of recent coups. We discuss them in turn.

Strength of civil society refers to whether nonstate organizations are voluntary; whether they adequately perform specialized social functions; and whether they are valued by citizens as a result of providing meaning, resources, and strategies for coping with the problems of daily life (Fukuyama 1995; Migdal 1988, 26). Nonstate organizations constitute a powerful safeguard against military intervention when they "talk back" or resist a coup by mobilizing protests or refusing to comply with plotters' orders. As David (1985, 5) notes, "Without strong independent trade unions, political parties, and voluntary associations, there will be very little standing in the way of successful military coups" (see also Luttwak 1968, 33; 103; Jackson and Rosberg 1982, 64; Migdal 1988, 206-37; Sutter 1999). On the basis of his analysis of 108 countries between 1948 and 1967, for example, Hibbs (1973, 102) concludes that "institutionalization *alone* has a negative impact on coups. . . . Weakly institutionalized societies, then, are far more likely than those with highly developed institutions to suffer . . . political interventions by the military."³

Finer (1988, 83-85) attributes the failure of the Kapp putsch in 1920 to "the tradition of civil institutions in Germany, and the highly organized nature of the public which supported them." When the German government escaped to Dresden and Kapp occupied the Chancellery, Workers' Councils coordinated a general strike as well as violent civilian revolts in Saxony and the Ruhr, and Kapp and his family were forced to

3. Three of the variables that make up Hibbs's (1973, 99) measure of institutionalization partially reflect the strength of nonstate organizations: union membership as a percentage of the nonagricultural work force, age of the largest political party divided by the number of parties, and age of the largest political party.

flee to Finland. In Bolivia in October 1979, an uprising by an army garrison in the Amazon Basin prompted the Bolivian Workers' Central labor union to organize protest strikes that sent the troops back to their barracks. In Spain in the 1930s, "There were simply too many individuals willing to fight, and too many organizations to enable them to do so to allow the luxury of a leisurely march on the capital" (Farcau 1994, 150). It is true that the military can influence or even blackmail politicians when social forces are organized and strong (Finer 1988, 77-98). But there have been only a handful of attempted coups under such circumstances, most recently including a failed attempt in Spain in 1982 (Aguero 1995; Colton 1979, 222; Farcau 1994, 198; Finer 1988, 147).

We measure strength of civil society in terms of the number of associational memberships that individuals and groups maintain in international nongovernmental organizations (INGOs).⁴ INGO membership has a positive, statistically significant correlation with available measures of nonstate organization. And INGO participation reflects the type of associational politics that is the essence of civil society (Moon 1997). Moon and Schofer (1998) gathered data on nonstate scientific associations and showed that the correlation coefficient between international nongovernmental organization membership and domestic nonstate scientific associations is high. In 1995, for example, the correlation between INGO membership and a cross-national measure of domestic professional and scientific associations was .81. Despite the positive statistical correlation between INGO membership and other measures of nonstate organization, as well as sound theoretical reasons for suspecting that INGO membership is correlated closely with civil society, we would have preferred to rely on direct measures of domestic civil society, such as the number of domestic nongovernmental organizations. However, more direct measures are not available for every country in the world between 1960 and 2000. That said, to ensure that our measure of civil society is not simply a proxy for regime type or wealth, we checked and found that INGO membership is only weakly correlated with regime type⁵ (-.152) but more highly correlated with per capita wealth (.633). We include controls for both variables in our models below.

Legitimacy of the regime is the second component of coup risk. There are several ways to conceptualize this aspect of domestic politics, and we understand legitimacy

4. $N = 5,463$, minimum = 0, maximum = 3,523, mean = 532.72, standard deviation = 583.3. Data were compiled by Ann Hironaka from the Union of International Associations (1984-2000). We used linear interpolation and extrapolation to fill in missing values for international nongovernmental organization (INGO) membership, which is the only variable in our coup risk index for which we did not rely exclusively on actual data. The INGO membership variable is available yearly beginning in 1982 for every country in the world. Prior to that date, it is available roughly in 5-year intervals going back to 1966. We interpolated between available data points for the period between 1966 and 1982 and extrapolated backwards between 1960 and 1966. Other studies using this approach for missing INGO data include Boli and Thomas (1999); Hironaka (2002); Frank, Hironaka, and Schofer (2000); and Meyer et al. (1997). INGOs do not tend to fluctuate, and our results were not sensitive to the method of interpolation or extrapolation. In the final analyses, we used linear interpolation and extrapolation. Our coup risk measure is based on 21,852 data points, of which 2,567 (11.7%) consist of interpolated or extrapolated (as opposed to actual) data. Finally, we computed the natural logarithm of the number of INGOs to correct for its highly skewed distribution because we feared the variable's extreme skew would lead to nonnormality in the conditional error distribution.

5. Regime type refers to whether the regime is military or civilian. See Banks (2001).

as the degree of consensus among citizens, elites, and organizations about the state's right to make rules. Others have labeled this variable state strength, power, capacity, and loyalty of opposition, but we prefer the term "legitimacy" to focus on whether the state has the recognized right to legislate the rules that people and organizations follow and to avoid the misleading and tautological statement that the risk of a coup is lowest when the state is strong (Barnett 1992; Linz 1978, 155). According to Migdal (1988, 31), "In many societies, state officials have simply not gained the right and ability to make many rules they would like." In parts of Africa, "personal rule . . . is characterized by the seeming paradox of relative autonomy or freedom for the ruler and his clique to make policies but great constraint and incapacity to implement or enforce them" (Jackson and Rosberg 1982, 30).

When nonmilitary actors agree about the state's right to make rules, when there is common willingness to pursue institutionalized procedures to redress grievances and forgo extrasystemic channels for dispute resolution, and when laws are sufficient for protecting individual and organizational interests from executive abuse, political opposition is unlikely to drag the military into politics. As Linz (1978) argues,

Regimes vary widely in the amount and intensity of citizen belief in their legitimacy. . . . Belief in that legitimacy on the part of those who have direct control of armed forces is particularly important. However, it seems unlikely that military leaders would turn their arms against the government unless they felt that a significant segment of the society shared their lack of belief. (P. 17; see also Sutter 1999; Welch 1976; Finer 1988, 77-126; Nordlinger 1977, 94-95)

When the converse is true, however, elites may "find it expedient to grant the military a limited degree of legitimacy to perform these specific tasks. . . . In such a pattern of civil-military relations, the military is repeatedly called into politics" (Stepan 1971, 63).

We measure legitimacy in terms of the competitiveness and degree of regulation of the political system. Competitiveness is a five-step index that captures the extent to which "alternative preferences for policy and leadership can be pursued in the political arena" and that ranges from "repressed," in which no significant oppositional activity is permitted, to "competitive" (Marshall and Jagers 2000).⁶ A variety of platforms vie for prominence in the political marketplace of highly competitive systems, whereas in noncompetitive systems, political entrepreneurs are not permitted to articulate policies, ideologies, and visions that deviate from the party line. The second component of our legitimacy index, regulation of participation, is a five-step index that ranges from a score of 1 if there are *no enduring national political organizations* to 5 if *stable, enduring groups compete for influence* (Marshall and Jagers 2000).⁷

We then computed z-scores for both variables and added them together to compute the legitimacy index. To ensure that our index is not simply a proxy for regime type, we checked and found that legitimacy is only weakly correlated with regime type (-.202),

6. $N = 5,463$, minimum = 1, maximum = 5, mean = 2.65, standard deviation = 1.57.

7. $N = 5,463$, minimum = 2, maximum = 5, mean = 3.75, standard deviation = 0.97.

which refers to whether the regime is military or civilian. Then, to determine whether our findings are sensitive to decisions about how to measure legitimacy, we also measured this variable in terms of the age of the political system as coded by Gurr (Gurr 1990, Marshall and Jagers 2000). Jackman (1993) argues that the age of the political system is a valid and reliable proxy for legitimacy because rules take time to set in and because old political regimes are more likely to depend on legitimacy to sustain themselves than young regimes. As expected, age is partially correlated with our legitimacy index (.55). When we included age in our measure of legitimacy, the respecification did not significantly influence the magnitude, direction, or significance of our findings, reported below.

The influence of recent coups constitutes the third component of coup risk. As Zimmermann (1983, 276) notes, "The likelihood of coups is severely increased if coups have occurred in the past." Coup risk should not be conceptualized exclusively in terms of recent coups because the absence of coups may reflect effective coup-proofing rather than low coup risk. That said, coups have a powerful symbolic impact by legitimizing extraconstitutional methods as acceptable mechanisms for political transitions. And more tangibly, coups tend to undermine civilian institutions, such as courts and legislatures, that are necessary for serving as a check against future coups. As Finer (1970) suggests, "The temporarily victorious elements find themselves under threat from other, rebellious, units, and this goes far to explain why coup is so often followed by counter-coup" (as cited in Zimmermann 1983, 277; Londregan and Poole 1990, 152). We measure the influence of recent coups dichotomously by coding all observations in which a successful coup occurred within the past ten years as 1 and all other cases as 0. We compiled our list of coups from Luttwak (1968), Ferguson (1987), O'Kane (1987), Finer (1988), and *Keesing's Contemporary Archives*, and we sought to ensure the accuracy of our list by sharing it with regional experts and checking discrepant cases in the *New York Times* and *Foreign Broadcast Information Service* when possible.⁸

We constructed our combined measure of coup risk by focusing on the years between 1960 and 2000. We measure coup risk in 167 states, and our analyses contain, on average, 133 states in any given year. Other states are excluded in certain years either because the country was not yet independent or because its population was less than 1 million. Pooling data on each country for all available years results in a data set with 5,463 cases. Each case consists of a regime-year. For example, Spain-1969 is one case and Spain-1970 is another case. To construct our measure, we combined three components: civil society, legitimacy, and recent coups. We first computed z-scores for each component to ensure that they contributed equally to the final index.⁹ Then we flipped the signs of civil society and legitimacy so that higher positive values would indicate higher coup risk. Finally, we added the variables together to compute the

8. Also see Thompson (1973) and Janowitz (1977). In addition, we collected data on attempted coups, although data on attempted coups may be somewhat unreliable because regimes sometimes fabricate plots to justify repressing domestic adversaries.

9. We also employed factor analyses to develop our indicator. Results in analyses below are nearly identical. Given the near equivalence of the indicators, we present the simpler measure based on z-scores to avoid a lengthy discussion of factor analysis.

TABLE 2
Descriptive Statistics of Components of Coup Risk and Coup Risk Indicator

	<i>Number of Cases</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard Deviation</i>
Civil society	5,463	0.00	8.17	5.7095	1.1782
Legitimacy	5,463	-2.04	2.83	0.0341	1.5019
Recent coups	5,463	0.00	1.00	0.2341	0.4235
Coup risk	5,463	-4.55	7.68	-0.0274	2.2378

NOTE: Coup risk is constructed so that its mean is roughly zero. In other words, the “average” country scores zero. Positive values indicate higher levels of coup risk.

index. Summary statistics are presented in Table 2, and Appendix A offers average regional coup risk scores.¹⁰

AN EVALUATION OF OUR INDICATOR OF COUP RISK

Our structural measure is designed to effectively reflect the phenomenon of coup risk. To begin, our score is partially based on theoretical insights. As noted above, the literature on civil-military relations identifies strength of civil society, legitimacy, and recent coups as important structural causes of coups. We only considered including predictors that satisfied a standard of theoretical or construct validity, although we did base our measure in part on whether factors were correlated with the incidence of coups.

In addition, our score successfully captures whether coups are likely. In the same way that cholesterol tests indicate whether a person is at risk for a heart attack without being able to determine if and when the attack will take place, our measure of regime vulnerability captures whether a coup is possible. Table 3 contains results of a simple cross-tabulation of our coup risk measure (here, divided into quartiles) with the actual incidence of coups in any given regime-year. In our dataset of 167 states between 1960 and 2000, there were only 7 coups or coup attempts, averaging 1 every 195 regime-years, in the 1,366 regime-years whose coup risk scores fell in the lowest quartile of our index. Hence, there was almost no opportunity for the military to attempt to displace regimes that fell in the lowest quartile of our coup risk score. Of 1,369 cases in the highest quartile of coup risk, by contrast, there were 198 coups and coup attempts, roughly 1 every 7 years. Of the 103 regimes in the study that were in the highest quartile of coup risk for at least 1 year between 1960 and 2000, 70 (68%) experienced a coup or coup attempt at some point during the period under consideration. A chi-

10. The Cronbach's α for our three measures is .597. Countries with the five lowest and highest average coup risk scores, 1960 to 2000, follow. After each country, we present the average coup risk score, the number of coups and coup attempts, and the number of years the country appears in our data set: France (-4/0/41), West Germany/Germany (-3.97/0/41), United Kingdom (-3.93/0/41), Belgium (-3.92/0/41), Italy (-3.92/0/41), Burundi (2.99/8/39), Azerbaijan (3.08/2/10), Guinea-Bissau (3.16/2/19), Tajikistan (3.7/1/10), North Yemen (4.11/6/31). The U.S. results were (-3.72/0/41).

TABLE 3
 Number of Coups and Coup Attempts for Each Quartile of Coup Risk Score

Quartile of Coup Risk Score	Number of Coups and Coup Attempts				Total Regime-Years This Quartile
	Regime-Years in Which No Coup Occurred	Regime-Years with One Coup or Attempt	Regime-Years with Two Coups or Attempts	Regime-Years with Three Coups or Attempts	
1	1,360	5	1	0	1,366
2	1,323	38	4	0	1,365
3	1,295	61	6	1	1,363
4	1,195	150	24	0	1,369
Totals	5,173	254	35	1	5,463

$\chi^2 = 233.17^{***}, 9 df$
 Gamma = .632***

*** $p < .001$.

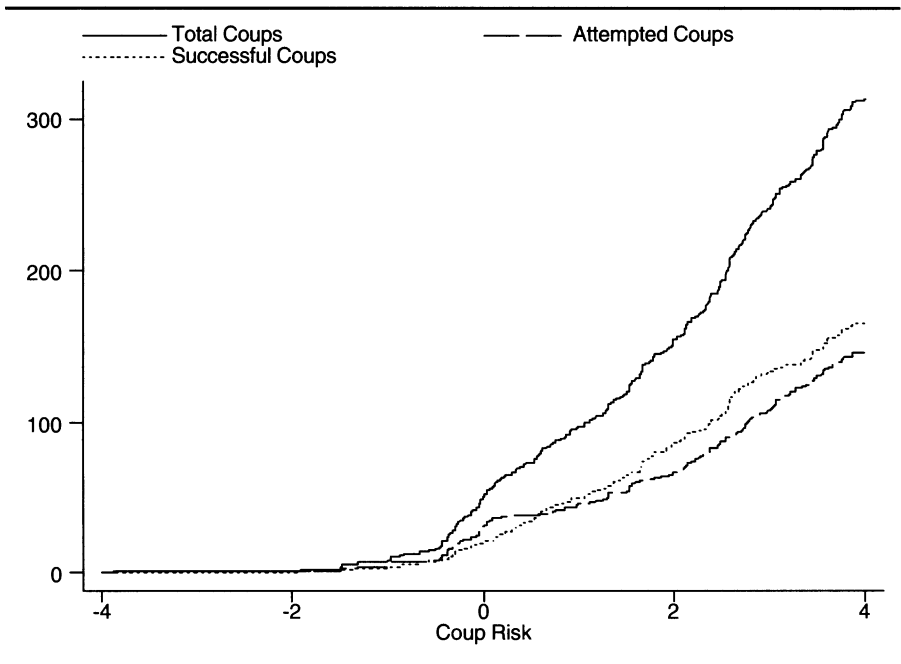


Figure 2: Number of Coups and Attempted Coups by Coup Risk Score

square test indicates a clear relationship between our coup risk measure and the actual incidence of coups in a given regime-year ($\chi^2 = 233.17, 9 df$, significant at $\alpha = .001$). Likewise, a gamma of .632 indicates a substantial positive association (again, significant at $\alpha = .001$).

Although the cross-tabulations above suggest strongly that our measure of coup risk is associated with the incidence of coups, cross-tabulations cannot approximate causal analysis. Hence, we developed a more fully specified model of the causes of coups d'état based on a rigorous and comprehensive exemplar in the literature (Londregan and Poole 1990).¹¹ We then inserted our coup risk variable into the model to determine whether it is associated with coups after controlling for other important causes. With one minor exception, our model replicates the 1990 Londregan and Poole model precisely.¹² Then, to provide an even more difficult test for our measure, we created a third model by adding control variables that Londregan and Poole did not include.¹³ We use a logistic regression with random effects to model the incidence of coups from 1960 to 2000. A random effect term is necessary because of correlated error among cases from the same country measured at various points in time, which violates the assumptions of standard logistic regression models.

As can be seen from Table 4, our measure of coup risk is positively associated with the incidence of coups even after controlling for other important determinants. A likelihood ratio test indicates that adding our coup risk measure significantly improves upon the original Londregan and Poole (1990) model ($\chi^2 = 24.60$, 1 *df*, significant at $\alpha = .001$). And the addition of our measure improves our more fully specified model ($\chi^2 = 17.62$, 1 *df*, significant at $\alpha = .001$ level). Finally, it is worth noting that our more fully specified model is a significant improvement over the Londregan and Poole model, one of the best analyses of coup incidence in the literature ($\chi^2 = 146.48$, 4 *df*, significant at $\alpha = .001$).¹⁴

The Bueno de Mesquita, Siverson, and Woller (1992) measure, based on recent coups, fares less well.¹⁵ It predicts coups successfully in the Londregan and Poole

11. However, the model is not fully specified because we did not include triggering factors. Some triggers, such as officers' grievances, cannot be measured on a large-*n* basis. Other triggers such as protests can be measured on a large-*n* basis, but available data sometimes specify the year but not the date of the event. So it is not always possible to determine if an event was a cause or an effect of a given coup. Underspecification is a problem to the extent that triggers are correlated with our coup risk measure. If not, our estimates of coup risk coefficients will not be severely biased.

12. The one difference is that we omitted Londregan and Poole's (1990) "Oceania" variable from our models. Due to missing values of our "Domestic Unrest" variable, few cases from Oceania remained in our analysis. We did not feel that we could accurately generalize to the entire region based on a few cases and thus chose not to include a regional dummy variable for Oceania. In models not presented here, the Oceania variable was not significant (consistent with the findings of Londregan and Poole) and did not change the sign or significance of other variables in the models.

13. See World Bank (2001) for data on wealth, measured by the natural logarithm of gross domestic product (GDP) per capita in constant U.S. dollars. See Banks (2001) for domestic unrest; an annual count of strikes, riots, assassinations, revolutionary actions, purges, antigovernment protests, and acts of guerilla warfare; and regime type, a dichotomous measure coded 0 for civilian regimes and 1 for military or combined civilian-military regimes. For regional conflict, a 5-year moving average of the proportional level of regional interstate hostility, and recent war, a dichotomous variable set to 1 if a regime went to war in the past 10 years and 0 otherwise, see Sarkees (2000). We created several measures of regional conflict and recent war using different data sources. All yielded similar results.

14. We used a consistent sample ($N = 4,250$ regime-years) when comparing Londregan and Poole (1990) with our model to ensure an accurate comparison in the likelihood ratio test.

15. We constructed two variants of the Bueno de Mesquita, Siverson, and Woller (1992) measure, a dummy coded 1 if a country experienced a coup in the past 10 years and a running count of the number of coups in the past 10 years. Both yielded nearly identical results, but because the second performed slightly better in our models, we include it in Tables 4 and 5.

TABLE 4
The Effects of Coup Risk on Coup Incidence: Logistic Regression Models with Random Effects, 1960-2000

	Coup d'État		
	<i>Londregan and Poole with Recent Coup and Structural Measures</i>	<i>Londregan and Poole with Recent Coup and Structural Measures</i>	<i>Full Coup Incidence Model with Recent Coup Measure</i>
Coup risk: Structural measure (Belkin and Schofer) ^a			
Coup risk: "Recent coup" measure (Bueno de Mesquita, Siverson, and Woller 1992) ^a	0.576*** (0.072)	0.299*** (0.053)	0.287*** (0.070)
Wealth (gross domestic product per capita, log) ^a	-0.412*** (0.101)	-0.239* (0.106)	-0.233* (0.104)
Africa	0.476* (0.241)	0.357 (0.235)	0.146 (0.319)
Europe and North America	-0.030 (0.439)	-0.046 (0.416)	0.255 (0.453)
South America	1.425*** (0.321)	1.288*** (0.331)	0.900* (0.408)
Central America	0.834** (0.285)	0.747** (0.254)	0.621* (0.296)
Domestic instability and violence ^a			0.090*** (0.016)
Regime type (military vs. Civilian)			1.740*** (0.238)
Regional conflict			-4.585 (5.111)
Recent war ^a			0.103 (0.291)
Constant	-0.956 (0.732)	-2.168** (0.785)	-2.610** (0.803)
Log-likelihood	-762.90	-750.60	-647.03
Number of countries	144	144	144
Number of regime-years	4,459	4,459	4,250

NOTE: Robust standard errors appear in parentheses.

a. One-tailed test; all others two-tailed.

* $p < .05$. ** $p < .01$. *** $p < .001$.

(1990) model and in the more fully specified model if our structural measure of coup risk is not also included. When our structural coup risk measure is added to the more fully specified model, however, the recent coup measure loses statistical significance, whereas our structural measure remains positive and highly significant. This suggests that our structural measure is more effective at predicting coups. Appendix B provides another illustration of the effectiveness of our structural measure for predicting coups and attempts. In general, it is difficult for models to predict rare events such as coups. However, our structural measure and our fully specified coup prediction model perform rather well. Our full model does a better job of predicting both the presence and absence of coups and attempts in any given regime-year, with fewer “false positives” than other models. Moreover, our structural measure can predict “first coups,” which the Bueno de Mesquita, Siverson, and Woller recent coup measure cannot do. Additional limitations of the recent coup measure become clear in subsequent analyses presented below.

Finally, we explore whether our indicator is statistically associated with the state phenomenon of “counterbalancing.” There is a broad consensus in the literature that when leaders are vulnerable to a coup, they commonly counterbalance their militaries, that is, divide their armed forces into rival organizations that check and balance each other.¹⁶ Counterbalancing may involve the creation of additional (possibly redundant) military branches that prevent any one part of the military from controlling too many resources, for example, creating several distinct armies. Or it may involve the creation of special paramilitary forces of extremely loyal troops for the sole purpose of protecting the leader. Here, counterbalancing is measured using an index that captures both of these components—the proliferation of military branches and the size of paramilitary forces.¹⁷

We use random-effects generalized least squares (GLS) linear regression analysis to model the effect of coup risk and other variables on a state’s tendency to counterbalance (Table 5). Again, random effects are appropriate because our data set involves temporally pooled data for each state. We found that our measure of coup risk has a positive and significant effect on counterbalancing, even after controlling for other determinants such as regional war, regime type, wealth, size of the military, domestic instability, and cultural fragmentation.¹⁸ Each unit increase in coup risk is associated with a .296 unit jump in counterbalancing (and a .465 unit jump in the combined model that includes the recent coup measure), and the finding is quite robust regardless of the particular control variables included in the model.¹⁹

16. See Brooks (1998), Farcau (1994), Feaver (1995, 1996), Finer (1988), Frazer (1994), Janowitz (1964), Luttwak (1968), Nordlinger (1977), Perlmutter (1977), Pion-Berlin (1989, 1992), Quinlivan (1999), Rouquie (1987), Stepan (1986), Welch (1976).

17. We used International Institute for Strategic Studies (1966-1986) data to count the number of military and paramilitary organizations and compare the relative size of the paramilitary to the total armed forces. We combined these two variables into an index by computing z-scores for each and summing them. Summary statistics for the index (1966-1986) are $N = 1,908$, minimum = -4.04, maximum = 5.92, mean = 0.012, standard deviation = 1.70.

18. Our data set included 124 countries between 1966 and 1986. For military size, a logged count of the number of troops in the regular armed forces, see Singer and Small (1999). For ethnolinguistic fragmentation, the diversity of ethnolinguistic groups residing within a given country, see Taylor and Hudson (1972).

19. For the 1966 to 1986 data set in these models, coup risk ranges from -4.16 to 4.38.

TABLE 5
 The Effects of Two Coup Risk Measures on Counterbalancing:
 Pooled Cross-Sectional Random Effects Generalized Least Squares Regression Models, 1966-1986

	Military Counterbalancing		
	Recent Coup Measure Alone	Structural Measure Alone	Recent Coup and Structural Measure
Coup risk: Structural measure (Belkin and Schofer) ^a	—	0.296*** (0.083)	0.465*** (0.095)
Coup risk: "Recent coup" measure (Bueno de Mesquita, Siverson, and Woller 1992) ^a	—	—	—
Regional conflict ^a	-0.241* (0.100)	-0.658** (0.239)	-0.681*** (0.127)
Regime type (military vs. civilian)	-0.696** (0.254)	-0.722** (0.243)	-0.691** (0.226)
Wealth (gross domestic product per capita, log) ^a	-0.112 (0.228)	-0.049 (0.134)	-0.432 (0.232)
Size of military (log)	-0.392*** (0.102)	0.334*** (0.068)	0.053 (0.141)
Domestic instability and violence ^a	0.312*** (0.070)	-0.004 (0.013)	0.320*** (0.067)
Ethnolinguistic fragmentation ^a	-0.008 (0.014)	-0.002 (0.004)	0.003 (0.013)
Constant	-0.003 (0.004)	-0.002 (0.004)	-0.002 (0.004)
	1.782* (0.720)	-0.630 (0.960)	-1.087 (0.998)
Adjusted R-squared	.158	.204	.263
Number of countries	124	124	124
Number of regime-years	1,908	1,908	1,908

NOTE: Robust standard errors appear in parentheses.

a. One-tailed test; all others two-tailed.

* $p < .05$. ** $p < .01$. *** $p < .001$.

By contrast, when we tested Bueno de Mesquita, Siverson, and Woller's (1992) measure, we found that it is negatively associated with counterbalancing. Given the consensus in the theoretical literature about coup risk as a cause of counterbalancing, and given that the magnitude, direction, and significance of most of the other control variables are roughly equivalent in the models, we suggest that the models are specified properly and that the negative relationship indicates that Bueno de Mesquita, Siverson, and Woller's measure of coup risk could be biased.²⁰ The measure may be biased because many regimes that are highly at risk of a coup and that take effective steps to prevent them (e.g., counterbalancing) do not experience coups. Bueno de Mesquita, Siverson, and Woller's measure of coup risk depends exclusively on whether a regime has experienced a coup in the previous ten years. Many regimes that are highly at risk of a coup do not experience actual coups or attempts if they pursue effective coup-proofing strategies such as counterbalancing. Because the measure is based on previous coups, such regimes are erroneously scored as low risk. Possibly as a result, Bueno de Mesquita, Siverson, and Woller's measure is negatively correlated with counterbalancing. Ironically, the more effective a given coup-proofing strategy is, the more negatively it may be correlated with the Bueno de Mesquita, Siverson, and Woller measure of coup risk. In predicting the overall rate of coup incidence, our structural measure of coup risk proves to be slightly preferable to the recent coup approach. When it comes to predicting a broader array of regime behaviors associated with coup risk, however, a structural measure of coup risk is virtually a necessity. The possible biases in the recent-coup approach may render measures based exclusively on recent coups incapable of predicting even the most basic outcome known to be associated with coup risk.

THE BENEFITS OF A STRUCTURAL UNDERSTANDING OF COUP RISK

Despite its prominence in important theories of war, revolution, and democratization, few scholars have attempted to develop a rigorous conceptualization and valid measure of coup risk. In this study, we distinguish the concept of structural coup risk from proximate, triggering causes of coups as well as coup-proofing strategies that regimes implement to avert impending coups. Although our primary aim has been to develop a valid measure that improves scholars' capacity to predict coups and other outcomes that follow from coup risk, the structural approach that we develop here also has implications for understanding broader civil-military dynamics. In particular, previous understandings of coup risk are insensitive to an important observational equivalence: that in both high-risk and low-risk cases, the actual incidence of coups may be low. The well-known distinction in the civil-military relations literature between motives and opportunities for launching a coup fails to recognize that an absence of opportunity may follow from low coup risk or effective coup-proofing strategies, two completely different phenomena.

20. A referee helpfully noted that other accounts of the negative relationship are plausible.

Possibly because it conflates low coup risk with the effectiveness of coup-proofing strategies, the only other measure of coup risk available in the literature underestimates coup risk in cases where coup-proofing strategies are implemented and fails to distinguish between a lack of recent coups that is due to effective coup-proofing from a lack that reflects low coup risk. By basing our measure on theoretical insights into structural factors that predispose regimes toward vulnerability to a coup, we constructed an improved measure of coup risk that captures this distinction and avoids some of the possible bias of the alternative measure.

We demonstrated the utility of our measure through cross-national statistical analyses of coup incidence and the implementation of coup-proofing strategies. Our measure proves to be a powerful predictor of coups, and our statistical analysis significantly improves upon previous coup incidence models in the literature. In addition, our structural coup risk measure very effectively predicts counterbalancing, a common coup-proofing strategy implemented by regimes. Results suggest that structural conceptualizations of coup risk provide distinct advantages for predicting coups and outcomes related to coup risk. By conceptualizing regime vulnerability to the military in terms of structural risk factors and then developing an indicator based on such factors, we hope to improve understandings of regime vulnerability while providing a useful tool for scholars who wish to include a measure of coup risk in their quantitative analyses.

APPENDIX A Average Regional Coup Risk Scores (1960-2000)

<i>Region</i>	<i>Coup Risk Score (Average 1960-2000)</i>	<i>Number of Coups</i>	<i>Number of Failed Coup Attempts</i>	<i>(Coups + Attempts)/ Regime-Years</i>
Europe	-3.37	1	7	0.01
North America ^a	-2.77	0	0	0.00
Central Europe	-0.32	3	6	0.02
Central America	0.17	22	18	0.07
Asia	0.30	25	12	0.05
South America	0.37	20	24	0.12
Middle East	0.86	23	25	0.07
Africa	1.30	72	60	0.09

a. North America includes the United States, Canada, and Mexico.

APPENDIX B

Predictive Capacity of Coup Models: All Coups and First Coups, 1960-2000

	<i>Sensitivity (% Coups Accurately Predicted)</i>	<i>Positive Predictive Value (%)</i>	<i>Negative Predictive Value (%)</i>	<i>False Positive Rate (%)</i>
All coups and attempts ^a				
“Recent-coup” measure alone	35.21	17.73	96.39	82.27
Structural coup risk measure (Belkin and Schofer) alone	55.40	13.07	97.16	86.93
Londregan and Poole (1990) full model ^b	54.93	15.44	97.25	84.56
Belkin and Schofer full model ^c	66.67	21.68	98.03	78.32
First coups and attempts ^d				
“Recent coup” measure	— ^e	— ^e	— ^e	— ^e
Structural coup risk measure (Belkin and Schofer) alone	46.67	4.33	98.86	95.67
Londregan and Poole (1990) full model	73.33	6.11	99.41	93.89
Belkin and Schofer full model	76.67	16.55	99.56	83.45

NOTE: Positive predictive value is the number of coups and attempts correctly predicted by the model, divided by the total number of regime-years in which a coup or attempt was predicted (higher is better). Negative predictive value is the percentage of years without coups correctly predicted by the model, divided by the total number of nation years in which no coups were predicted (higher is better). False positive rate is the number of regime-years in which a coup was predicted but did not occur, divided by total number of regime-years where coups were predicted (lower is better). The information in this appendix is for illustrative purposes, based on specific probability cutoffs that determine whether a model “predicts” a coup to occur. Choosing a different cutoff alters the sensitivity as well as positive and negative predictive value of each model. In general, our coup risk measure and model performed well with a variety of different cutoffs.

a. Coup prediction indicated by estimated probability: $p > .08$.

b. Based on model in Table 4, first column (but case base reduced to be comparable with the last model in the table), $N = 4,250$.

c. Based on model in Table 4, last column, $N = 4,250$.

d. Coup prediction indicated by estimated probability: $p > .03$. First coup defined as a coup or attempt in the 1960 to 2000 period, given no prior coup or attempt since 1945.

e. Unable to predict.

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