The Predictability of Coups d'état: A Model with African Data*

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This paper specifies and estimates a model of the structural determinants of coups d'état for the new states of black Africa in the years from 1960 through 1975. Results indicate that (1) both social mobilization and the presence of a dominant ethnic group are destabilizing (these effects are additive); (2) multipartyism is destabilizing while electoral turnout in the last election before independence is stabilizing; (3) multipartyism is particularly destabilizing where a dominant ethnic group exists; (4) the presence of such a group reduces (but does not eliminate) the stabilizing effect of turnout; and (5) multipartyism has no pronounced effect on elite instability where turnout is high. Taken together, these patterns account for over four-fifths of the variance in coups d'état in black Africa in the period.

Over the past two decades, coups d'état have become increasingly common to the politics of the Third World generally and to African politics in particular. Their occurrence has attracted a fairly large body of literature that seeks to identify the structural determinants of coups and elite instability. Three broad determinants have received particular attention: first, social mobilization or "modernization" (e.g., Deutsch, 1961); second, cultural pluralism (e.g., Geertz, 1963; Kuper and Smith, 1969); and third, two "political" factors—political party systems and mass participation (e.g., Deutsch, 1961; Huntington, 1968). While it would be foolhardy to claim that there is a consensus on the ways in which these factors affect elite instability, the theoretical literature does suggest that coups d'état should be predictable.

Unfortunately, the opposite impression seems to emerge from empirical studies, especially those dealing with Africa.[1] A growing number of analysts have therefore concluded either that the wrong explanatory variables have been isolated, or (more radically) that the incidence of coups is not meaningfully dependent on *any* structural characteristics. For example, Zolberg wrote in 1968 that "it is impossible to specify as a class countries where coups have occurred from others which have so far been spared" (1968, p. 71). More recently, Decalo has suggested that the effects of the "structural characteristics of political systems" on elite instability are trivial when compared to the "idiosyncratic element" (1976, p. 22). Such statements clearly imply that the incidence of coups d'état is random with respect to political and social structure, and that such events are therefore unpredictable.

The purpose of this article is to show that this conclusion is unnecessarily pessimistic, and that the emphases in the theoretical literature are not misplaced. More specifically, social mobilization, cultural pluralism, and the two political factors identified above *are* important structural determinants of elite instability. While analysts have differed over the exact nature of the effects of these factors, such differences can be resolved empirically. Once this is done, the incidence of coups d'état can be shown to exhibit a considerable degree of predictability.

The Effects of Social Mobilization. According to Deutsch (1961, pp. 497–98), social mobilization is a politically important process because it expands "the politically relevant strata of the population," by which is meant "those persons who must be taken into account in politics" (Deutsch, 1961, pp. 497–98). This has led some (e.g., Finer, 1962, pp. 87–88; Fossum, 1967, p. 235) to argue that increased mobilization is likely to decrease the probability of

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[1]Recent empirical studies include those by Morrison and Stevenson (1972), Wells (1974), and Barrows (1976). Of these analysts, only Wells provides evidence on the fit of his model (in the form of multiple correlation coefficients), but, as Phillips and Bar-Yunus (1976) have pointed out, his models actually account for between zero and 12 percent of the variance in coups e'état. Indirect evidence in the other two papers suggests a similar degree of fit.

coups, since these are covert events instigated by small numbers of people. If the number of participants in a mobilizing polity is rising, it should become increasingly difficult for such small factions to mount coups.

An alternative argument identifies other factors that may condition or even reverse the basic effect. The most prominent of these has been labeled variously as political "performance" and "capacity" (Deutsch, 1961) or political "institutionalization" (i.e., the process by which organizations "acquire value and stability" [Huntington, 1968, pp. 12–24]). If mobilization is not accompanied by an increase in government capacity, governments are unlikely to respond to and satisfy the new aspirations and expectations that are generated by social mobilization. Under such circumstances, the effect of mobilization on instability is reversed and becomes *positive*. This clearly constitutes a major change to the basic argument (Deutsch, 1961, p. 502; Huntington, 1968, Ch. 1, especially p. 55).

This second hypothesis about the effects of social mobilization is of particular interest in the African context, because Huntington (1968, p. 13) and others have suggested organizational age as one key feature of institutionalization. Perhaps the most striking feature of the black African states is their youth, which, along with the rapidity of the decolonization process, suggests that national political institutions in Africa are unlikely to meet Huntington's initial criterion for institutionalization. If this is the case, we might simply expect social mobilization to produce more coups d'état in Africa.

The Effects of Cultural Pluralism. A number of analysts have suggested that cultural pluralism fosters political instability. By cultural pluralism, I refer to societies that are heterogeneous with respect to ascriptive or "primordial" attachments; specifically, attachments and identifications based on linguistic, religious, or ethnic ties (c.f., Shils, 1957; Geertz, 1963, p. 103; and the essays in Kuper and Smith, 1969). Typically, social attachments based on these criteria tend to reinforce one another. It is commonly argued that such primordial ties are important because they compete with and often predate attachments to the civic state itself, thereby forming the basis of political conflict (c.f., Deutsch, 1957, p. 62). Initially, therefore, it is reasonable to argue that cultural heterogeneity is destabilizing in and of itself (c.f., Rabushka and Shepsle, 1972).

Cultural pluralism is usually hypothesized to be particularly destabilizing as societies experience social mobilization, since mobilization makes different elements within the population increasingly aware of group differences, which in turn reinforces the salience of the primordial ties themselves (Deutsch, 1961, p. 501). In contrast, culturally homogeneous societies are not subject to the same pressures during the process of social mobilization, given the absence within them of primordial attachments that compete with symbols of the state.

There is, however, a minority view that predicts just the opposite effect. Coleman (1960, p. 368) suggests that by providing a system of countervailing power centers, cultural pluralism may contribute to political stability, *provided that no one group is in a numerically dominant position* (see also Dahl, 1956, p. 17). The potential significance of this argument in the African context is particularly clear when one recalls that, as a group, African states are characterized by a considerable degree of cultural heterogeneity (compare the data on ethnicity in Morrison, et al., 1972, Pt. 2).

In short, there are three distinct ways that cultural pluralism may affect elite instability. The dominant argument is that pluralism is destabilizing, which implies a simple positive effect. In addition, Deutsch's argument about the joint effects of mobilization and pluralism implies a nonadditive model, where the magnitude of the positive effect of mobilization increases with cultural heterogeneity. These two arguments are, however, incompatible with the third (countervailing-power) hypothesis that predicts a simple *negative* effect of pluralism on instability, on the grounds that the presence of many groups precludes political violence in the form of coups by any one group.

The Effects of Party Systems and Mass Participation. It is commonly argued that multipartyism and mass political participation are both destabilizing. Huntington (1968, pp. 425–26), Weiner and LaPalombara (1966, p. 416), and others claim that multipartyism generally gives expression to and thus exacerbates pre-existing social cleavages. In contrast, systems with one (or perhaps two) parties are seen as more stable to the extent that these dominant parties can aggregate competing political interests, thereby transcending those otherwise destabilizing social cleavages.

It is usually also claimed that the effects of multipartyism depend on the level of mass political participation. In particular, Huntington and others argue not only that participation is in itself destabilizing, but further that participation in multiparty systems is especially de-

stabilizing because the interests that are thus aroused are unlikely to be satisfied. This implies that these two variables have joint effects, such that the probability of coups increases dramatically with participation in multiparty systems. An alternative but less popular view is that mass participation is in fact *stabilizing:* by increasing the number of politically relevant persons it decreases the opportunities for small factions to engage in such clandestine political activities as coups d'état (c.f., Deutsch, 1961; Hayward, 1973). This suggests different estimates for the joint-effects model, where high rates of participation combined with a dominant political party reduce the probability of elite instability.

In addition, if multipartyism does exacerbate social cleavages, we might expect joint effects between the party-system variables and cultural pluralism. For example, the analyses I have reviewed suggest that a strong one-party system may help reduce any destabilizing effects of ethnicity. Similarly, mass political participation may condition any such effects of ethnicity. Finally, a slightly more complex possibility is that ethnicity *and* one-party dominance *and* mass participation may have a unique combined effect on elite instability, the specific nature of this effect depending in part on whether cultural pluralism and mass participation are stabilizing or destabilizing.

Analysis

The Dependent Variable. The analysis centers on those successful or attempted "irregular" government changes that are more commonly known as coups d'état. These changes are irregular in that they are attempts by insurgent elites to remove ruling regimes from power by extraconstitutional means, and are accompanied by actual or threatened resorts to physical violence. That is, coups are relatively covert actions that ignore or bypass the regular channels or "rules of the game" concerning the succession process.[2]

The dependent variable itself consists of a count over the period from 1960 (or from the year of independence, if that came after 1960) through 1975 of all successful, unsuccessful, and plotted coups d'état (typically, although not invariably, initiated by the military). I have followed the definitions and coding procedures for the three forms of coups that are described in some detail by Morrison, et al. (1972, p. 128). First, a *successful coup* is an event in which the existing political regime is suddenly and illegally displaced by an insurgent elite group without overt mass participation in the event itself. To be coded as successful, such displacements have to last at least one week. Second, an *unsuccessful coup* is an event where *a physical attempt is made* to displace the regime, but the attempt fails in the sense that the displacement lasts less than one week. Finally, *plotted coups* are defined as "events in which an announcement or admission is made by the elite group in power that a plot to overthrow the government by violence has been discovered" (Morrison, et al., 1972, p. 128). Note the important distinction between plots and unsuccessful coups: the latter require the existence of a physically attempted take-over of government.

New data on these three forms of coups were collected for the 30 countries listed in the appendix (all of these countries were independent by 1965). These data cover the years from independence or 1960 (whichever came later) through 1975, inclusive. Source coverage was wide, and included the following: *Keesing's Contemporary Archives, Facts on File, New York Times, Africa Recorder, Africa Diary,* and the *African Digest.* Following the analysis of Morrison and Stevenson (1971), I combined the three events into an additive index, with successful coups weighted by 5, unsuccessful coups weighted by a factor of 3, and plots weighted by 1. This procedure is designed to weight the different events by an estimate of their political significance.[3]

[2]Note that a concern with the problem of leadership succession is central to the literature on political development. See, for example, Weiner and LaPalombara (1966) and Huntington (1968). In this paper, I use the terms coups d'état and political or elite instability interchangeably, although I recognize that political instability can manifest itself in forms other than the coup d'état.

[3]Morrison and Stevenson (1971, pp. 361–64) provide an analysis of the dimensional properties of their similarly weighted index. I follow their weighting since it results in smaller residual sums of squares in the models to follow than do a series of plausible alternative weights (see Tufte, 1969 for a discussion of this procedure). For the 30 countries listed in the Appendix, values on my measure range from zero to 46 (Dahomey [Benin]), with a mean of 13.967 and a standard deviation of 12.294. Thus, this variable is somewhat skewed, although not substantially so (since the mean is larger than the standard deviation). Country values are plotted on the vertical axis of Figure 1 below. For a comparison of the different sources used in the collection of my data on coups, see Jackman and Boyd (1979).

The reliability of my measure of elite instability can be estimated by its covariance with the Morrison and Stevenson Index (MSI), because each was coded independently of the other. For the purposes of this comparison, I omit events from my index that occurred after 1969, since the MSI covers the period from independence to 1969. The product-moment correlation between the two variables is .95, which is clearly an acceptable reliability figure. In addition to this correlation coefficient, a regression of my instability index (from 1960 to 1969) on the MSI should, if the measures are identical, produce an intercept of zero and a slope of one. For the 30 countries I estimate an intercept of .65 (standard error: .81) and a slope of 1.16 (standard error: .07). These figures are very close to zero and unity respectively. To the extent that there is a discrepancy, the scores on my measure are slightly higher than the MSI scores. This I attribute to my use of *Keesing's Contemporary Archives,* which reported some events not covered in the other sources. The remainder of the analysis is based on my instability index using data that cover the full period from c. 1960 through 1975.

Mobilization and Cultural Pluralism. I start by examining the effects of social mobilization and cultural pluralism on coups d'état. Deutsch (1961) has provided a number of operational indicators of social mobilization, including the size of the nonrural population, the size of the nonagricultural work force, the size of the mass media audience, and literacy rates. In the following analysis, social mobilization is measured by the simple sum of the percentage of the labor force in nonagricultural occupations (c. 1966) and the estimated percentage of the population that is literate (c. 1965).[4] This measure reflects the key elements of Deutsch's discussion. First, and most important, it reflects variations in the importance of the market economy, since in the African case, "agriculture" includes a substantial subsistence component. Second, it partly reflects the size of the nonrural population, for obvious reasons. Finally, it also taps exposure to "modernity," in the sense of technology, non-subsistence economic values, education, and susceptibility to mass communications.

Defining and measuring cultural or ethnic pluralism is a somewhat more challenging task, since there are at least ten distinct criteria available for defining ethnic units (Naroll, 1970, p. 726). Here I follow the definition proposed by Morrison, et al. (1972, pp. 166–70, 418), who require that each ethnic unit consist of persons who share basic cultural characteristics—that is, who share patterns of marriage, descent, community organization, authority, and economic structure. My measure of cultural pluralism is taken from the country profiles in Morrison, et al., and consists of the percentage of the population in the largest ethnic group. This variable is intended to measure the potential for political dominance that any one group has simply on the basis of its numerical strength. Not surprisingly, it is highly (negatively) correlated with the total number of ethnic groups in the society.[5] Thus, low scores on this variable represent a fragmented situation of the type described by Coleman (1960), Deutsch (1961), and others.

[4]Data on the agricultural component of the labor force are from the United States Agency for International Development (1968), and are the same as those reported two years later in the same publication and those listed by Morrison, et al. (1972, p. 40). I have reversed the AID scores so that this variable reflects the percentage of the labor force in nonagricultural (rather than agricultural) occupations. For the 30 countries in this study, values on this variable range from 4 to 44, with a mean of 16.333 and a standard deviation of 9.320. Data on literacy rates are from Morrison, et al. (1972, p. 70), and values on this component of social mobilization range from 3 to 40, with a mean of 14.533 and a standard deviation of 10.692 ($N = 30$). For the same countries, values on the social mobilization index range from 7 to 74, with a mean of 30.867 and a standard deviation of 17.087.

[5]I have treated the "other" category as a separate (and single) ethnic group. C (the percentage of the population in the largest group) ranges from 19 to 95, with a mean of 46.017 and a standard deviation of 19.292. The correlation of this variable with the total number of ethnic groups is –.794 (this second variable ranges from 2 to 9). In general, the relative size of ethnic groups is a variable that exhibits substantial temporal stability (the political and social relevance of ethnicity to individuals may, of course, be much less stable).

While it is a simple measure, I use the percentage of the population in the largest group instead of the more common measure of fragmentation (F) proposed by Greenberg (1956) and Rae and Taylor (1970), since in its middle ranges the latter is insensitive to what I think are important differences. Consider two countries, the first with three groups of equal size (34, 33, and 33 percent each), and the second with four groups (50, 25, 15, and 10 percent of the population, respectively). The F scores for these two cases are so similar (.667 and .655) that they obscure the important fact that in the first case no group is dominant, while in the second the largest group is twice the size of the next largest (and five times greater than the smallest).

Moderate to high scores, on the other hand, indicate the presence of a potentially tyrannical majority (Dahl, 1956, p. 17), along with a more culturally homogeneous population. Note, however, that none of the societies in this analysis is completely homogeneous, in that none has fewer than two ethnic groups.[6]

To gauge the effects of social mobilization and cultural pluralism on instability, I focus on the following model:

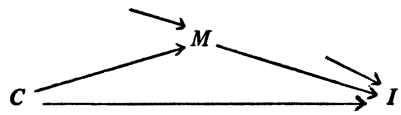
$$Coups = \alpha + \beta_1 M + \beta_2 C + \beta_3 (M.C) + \epsilon \qquad (1)$$

where M is Social Mobilization, and C is Cultural Pluralism. The earlier discussion implies $\beta_1 > 0$, but provides contradictory expectations concerning β_2 and β_3, which incorporate the effects of ethnic dominance. If, as most analysts argue, ethnic heterogeneity is destabilizing, then we would expect $\beta_2 < 0$, while $\beta_2 > 0$ would be consistent with the countervailing-powers hypothesis that sees ethnic dominance as the destabilizing force. Note that joint effects are also specified in this equation (estimated by β_3) that allow the effects of mobilization to vary according to the degree of cultural pluralism. This is clearly necessary if we are to assess the validity of the arguments of Deutsch and others that were reviewed earlier.[7]

The top two rows of Table 1 report the least-squares estimates for two versions of equation (1), one with additive effects only (i.e., with β_3 constrained to a value of zero) and the other with both additive and multiplicative terms. It is clear that mobilization and ethnicity do not have nonadditive (or joint) effects on coups. This result is obvious from the fact that the estimate of β_3 is not effectively different from zero (the t-ratio is 1.29).[8] Moreover, a

[6]Space considerations preclude a full treatment of the definition and measurement of ethnicity here, but Morrison, et al. (1972, pp. 166–70, 415–33) provide a lengthy discussion of the term and of issues surrounding the validity and reliability of the data used below.

[7]Although this point is straightforward, it seems to have been overlooked in previous tests of this hypothesis. For example, Morrison and Stevenson (1972, p. 101) specify the following model (using the notation of my equation [1]):



They then argue that if "modernization *interacts* with cultural pluralism to increase the likelihood of political instability" (their emphasis), P_{MC} and P_{IM} will have opposite signs. This is a clear misspecification, since by allowing only for additive effects, their model precludes the possibility of an interaction between M and C. The same problem exists with Barrows' (1976, p. 175) analysis, which is based on partial correlations from an additive model only.

[8]Statistical tests of significance help distinguish estimates based on these data from estimates derived from a randomly generated set of data. The precision of an estimate increases with its t-ratio (i.e., the ratio of an estimate to its standard error). A t-ratio of 2.0

Table 1. Regressions of Coups d'état, 1960 to 1975, on Social Mobilization and Cultural Pluralism ($N = 30$)[a]

	Constant	Social Mobilization (M)	Size of Largest Ethnic Group (C)	$M.C$	R^2	$\bar{R}^2$
Continuous Version of Ethnicity	−6.137	.375	.019		.241	.184
	(8.065)	(.131)	(.012)			
	8.775	−.354	−.016	.0018	.288	.206
	(13.867)	(.570)	(.028)	(.0014)		
Binary Variable Version of Ethnicity[b]	−3.609	.368	11.651		.390	.344
	(4.666)	(.111)	(3.726)			
	−3.886	.376	12.095	−.014	.390	.319
	(6.535)	(.172)	(8.132)	(.228)		

[a]Main table entries are the parameter estimates, and numbers below them in parentheses are their standard errors.

[b]This variable equals 1 if the dominant ethnic group constitutes at least 44 percent of the total national population, and zero otherwise.

comparison of the corrected coefficients of determination shows that the full equation accounts for no more variance than does the truncated version with additive effects only. We can therefore conclude initially that the effect of mobilization on coups does not depend on the degree of cultural heterogeneity, which means that we can confine our attention to the estimates for the additive model in the top row of the table.

The estimate for β_1 in the additive model is positive and almost three times the size of its standard error. That is, mobilization increases the probability of coups d'état, as was anticipated. Such an outcome is consistent with the arguments put forward by Deutsch and Huntington, among others, that in the absence of political capacity or institutionalization, mobilization is likely to be destabilizing. Remember that this interpretation of the estimate for β_1 is predicated on the assumption that both the recency of national independence and the decolonization process imply a generally low degree of institutional longevity in black Africa.

Finally, the estimate for β_2 in the additive model is also positive and larger than (although not twice as large as) its standard error. This means that we can reject the widely held position that cultural heterogeneity is *de*stabilizing. In fact, this estimate suggests that the probability of coups increases with the size of the largest ethnic group, which is consistent with the countervailing-powers hypothesis that it is ethnic *dominance* rather than ethnic heterogeneity that has destabilizing effects.

Having secured these basic estimates for equation (1), I examined scatterplots to see whether the assumption of linearity is unnecessarily strong. This process, along with estimates of equation (1) based on feasible nonlinear transformations of the independent variables, indicates that the effects of mobilization (M) are best treated as linear. In contrast, as is shown in the bottom two rows of Table 1, the effects of ethnic dominance (C) are best captured when a binary variable is created from that measure. The optimal fit was secured when size of the largest ethnic group was dichotomized just below the median, in the sense that this classification produces smaller residual sums of squares than others, and it also leaves two categories of equivalent size. I therefore created a binary variable equal to one if the largest group constituted at least 44 percent of the population ($N = 16$), and zero otherwise ($N = 14$).

As is clear from the bottom panel of Table 1, the revised estimates still provide no support for the nonadditive argument (the joint effects of mobilization and cultural pluralism [β_3] do not differ meaningfully from zero). The revised estimates for the additive model do, however, produce a better fit (the $\bar{R}^2$ of .344 is increased by almost 90 percent over the earlier figure of .184), while the impact of social mobilization is similar in both versions of the additive model (the t-ratio for the revised estimate of β_1 is slightly larger).

The most important difference between the two versions of the additive model in Table 1 is that recasting C in the form of a binary variable yields a much more precise estimate of β_2, which is over three times the size of its standard error. This indicates that the impact of ethnic dominance on coups is best treated as nonlinear.[9] More specifically, the critical difference appears to lie between those countries where the size of the largest ethnic group falls just short of a majority (44 percent), and those where the largest ethnic group is smaller than this. The estimated value of 11.65 for β_2 indicates that this difference accounts for almost one standard deviation change in the dependent variable. Thus, it is the presence of a numerically dominant ethnic group (rather than cultural heterogeneity) that appears to be the potent destabilizing force. This, of course, is consistent with the countervailing-powers hypothesis.

Political Party Systems. Earlier, I distinguished between two features of party systems. The first of these reflects the number and relative size of the parties and can range from one-party systems to multipartyism: I shall call this party dominance. The second characteristic has to do with rates of political participation in conventional (i.e., electoral) politics. I shall deal with these in turn.

indicates that the results are significant at the .05 level, while a t-ratio of 1.7 indicates significance at the .10 level. Note that standard errors of estimate are sensitive to the number of observations, which in the present case is small (30).

[9] It is also possible that the binary variable version of ethnic dominance provides a better fit because it is more reliable than the continuous version. In particular, the dichotomous version of this variable is probably less sensitive to the unreliability that arises from the more detailed reliance on the various ethnographies required to construct the continuous variable (c.f., Morrison, et al., 1972, p. 169).

To measure party dominance, I rely on the percentage of the vote cast for the winning party *in the election closest but prior to the date of independence*. It is important to emphasize that the date for this variable *precedes* any of the instability events counted in the dependent variable. Thus, there is no ambiguity about the causal ordering when this variable is treated as an explanatory variable. Instead, by identifying the strength of political parties at independence, this variable isolates variations in an *initial* structural condition that we expect on theoretical grounds to have an impact on subsequent levels of elite instability. The data themselves are again taken from Morrison, et al. (1972, p. 103).[10]

To measure political participation, I have taken data on electoral turnout from the same source (p. 102). These data apply to the same election as the party dominance scores (i.e., the election closest but prior to independence), so they, too, identify an initial political condition. This variable expresses the number of voters participating in national legislative elections as a percentage of the population.[11] Note, incidentally, that the zero-order correlation between party dominance and participation is only .126.

The following model estimates the effects of party dominance and participation on coups d'état:

$$Coups = \alpha + \beta_4 D + \beta_5 P + \beta_6 (D.P) + \epsilon \qquad (2)$$

where D is party dominance, and P is political participation. The arguments we have reviewed see multipartyism as destabilizing and party dominance as stabilizing, which implies $\beta_4 < 0$. Because there is disagreement in the literature over whether mass participation is destabilizing, we have no specific expectations concerning the sign of β_5. The last parameter (β_6) is intended to estimate the magnitude of any joint or nonadditive effects of party dominance and participation on coups.

Table 2 reports the estimates for two versions of equation (2). Examining the top two rows, notice first that the nonadditive model fits the data much better than does the additive version. Therefore, the effects of party dominance and voter turnout are mutually dependent. In fact, the nonadditive model also provides a much more precise estimate of β_5 than does the simpler equation (the t-ratio increases from 1.2 to 2.0). Moreover, the estimate in the second row for β_4 is negative, as predicted. This provides strong support for the arguments of Huntington and others that fractionalized party systems have destabilizing con-

[10]This variable ranges from 16 to 100, with a mean of 66.724 and a standard deviation of 22.000 (N = 29). I have modified two of the original scores. First, since Ethiopia has no political parties (and given also that it was an "ancient kingdom" in 1960), I have excluded it from further analysis, which reduces the N to 29. Second, I have given the Sudan a score of 63 percent, on the grounds that even though Morrison and his colleagues do not use this value, they do suggest this as the best estimate (since the National Unionist Party won 60 percent of the seats). For discussion of the reliability of this and the following measure, see Morrison, et al. (1972, pp. 96–97).

[11]This variable ranges from 1 to 46, with a mean of 22.483 and a standard deviation of 11.825 (N = 29).

Table 2. Regressions of Coups d'état, 1960 to 1975, on Party Strength and Participation at Time of Independence (N = 29)[a]

	Constant	Percent Vote to Winning Party (D)	Electoral Turnout (P)	$D.P$	R^2	$\bar{R}^2$
Continuous Version of Participation	40.784	−.334	−.199		.409	.364
	(6.670)	(.086)	(.161)			
	64.904	−.646	−1.345	.015	.473	.410
	(15.284)	(.198)	(.676)	(.008)		
Binary Variable Version of Participation[b]	37.910	−.315	−5.528		.421	.377
	(5.970)	(.088)	(3.793)			
	46.008	−.448	−31.091	.375	.514	.456
	(6.692)	(.102)	(12.200)	(.171)		

[a]Ethiopia is excluded from this analysis. Main table entries are the parameter estimates, and numbers below them in parentheses are their standard errors.

[b]This variable equals 1 if turnout was 21 percent or more, and zero otherwise.

sequences. Finally, the estimate of β_5 is also negative, which is consistent with the argument that higher participation rates foster stability.

There is, however, a problem with the estimates in the second row of this table. Specifically, the estimate for α (64.904) is too high, since it is 41 percent higher than the observed maximum value of the dependent variable (46). To correct this problem, and to check on the assumption of linearity for β_3 and β_4, I examined the scatterplots and tried alternative nonlinear transformations on these independent variables. These procedures indicate that D (the largest party's share of the vote) is best treated as linear, while P (electoral participation) is best treated as a binary variable that assumes a value of one if turnout was more than 20 percent (N = 15), and zero otherwise (N = 14).

Revised estimates of equation (2) using the analysis of covariance model implied by this binary variable treatment are shown in the bottom two rows of Table 2. The superiority of the binary variable version of participation is reflected in the higher t-ratios for β_5 and β_6 in the bottom row, in the higher multiple coefficient of determination, and in the more reasonable estimate for α. These revised estimates also highlight the superiority of the nonadditive formulation over its simpler additive counterpart.

Substantively, the estimates in the bottom row of Table 2 show that within high-turnout countries the stabilizing effects of party dominance are negligible, and that coups are particularly likely where turnout is low *and* the party system is highly fractionalized. These results are consistent with the general emphasis in the literature on the destabilizing effects of multipartyism. However, they also suggest that the common "participation is destabilizing" argument is misplaced. Besides showing that participation has a stabilizing impact, the estimates imply that the stabilizing roles of participation and party dominance may be somewhat interchangeable.

Mobilization, Pluralism, Party Dominance and Turnout. The analysis so far indicates that both social mobilization and cultural pluralism have additive effects on coups d'état. It also points to a more complex nonadditive effect of party dominance and political participation. Yet these conclusions are provisional in that they do not address the issue of whether mobilization and pluralism have effects *net* of the two party-systems variables, and vice versa. Nor have we yet pursued the possibility that ethnic pluralism may condition the effects of the two "political" variables.

To answer these questions, I specify the following more complete model that includes components from equations (1) and (2):

$$Coups = \alpha + \beta_1 M + \beta_2 C - \beta_3 D - \beta_4 P + \beta_5(D.P) + \beta_6(C.D) + \beta_7(C.P) + \beta_8(C.D.P) + \epsilon \quad (3)$$

where all terms are defined as before. That is, *Coups* are counted from 1960 to 1975; M is Social Mobilization (the sum of the percentage of the labor force in nonagricultural occupations, c. 1966, and the percentage of the population that is literate, c. 1965); C is a binary variable that equals one when the largest ethnic group comprises at least 44 percent of the population, and zero otherwise; D is Party Dominance at independence (in terms of the percentage of the vote won by the largest party); and P is a binary variable that equals one when turnout in the last election before independence was more than 20 percent of the population, and zero otherwise.

This model specifies coups as a positive function of both mobilization and ethnic dominance (in light of the results of the first section we expect $\beta_1 > 0$ and $\beta_2 > 0$). Consistent with the results of the last section, it also specifies instability as a negative function of both party dominance and participation, so that $\beta_3 < 0$ and $\beta_4 < 0$, while $\beta_5 > 0$. In addition to these components from the prior analyses, and in line with the arguments reviewed earlier, equation (3) states that the effects of party dominance and turnout on coups also depend on the ethnic composition of the population.[12] If there is no

[12]Multicollinearity is not a problem with this model. In fact, correlations among the independent variables are low (N = 29):

	M	*C*	*D*	*P*
Social Mobilization (*M*)	1.00			
Ethnic Dominance (*C*)	−.249	1.00		
Party Dominance (*D*)	−.419	.152	1.00	
Turnout (*P*)	−.074	−.038	.253	1.00

such dependence, none of the additional parameters (i.e., β_6, β_7, and β_8) will be effectively different from zero.

Given the earlier arguments and the provisional results, let me outline more specifically the effects that we might expect from these additional parameters. First, the presence of a dominant ethnic group appears to have destabilizing consequences, while single party dominance appears to have the opposite effect. The stabilizing effects of party dominance may be particularly pronounced where there is a potentially dominant ethnic group, since the integrative role of strong parties may help transcend the disintegrative effects of ethnic dominance. This perspective implies $\beta_6 < 0$. In contrast, a positive estimate for this parameter would imply just the opposite, namely, that the destabilizing effects of ethnic dominance are not diminished by strong parties, and that the stabilizing effects of strong parties operate only when there is a series of smaller ethnic groups.

Second, the joint effects of ethnic dominance and turnout may operate in one of two ways. One possibility ($\beta_7 < 0$) is that the destabilizing effect of single ethnic-group dominance can be overcome by higher political participation. An alternative outcome ($\beta_7 > 0$) implies that the destabilizing effects of ethnic dominance may be increased by electoral turnout. Either of these outcomes would point to the significance of situations involving high turnout *coupled with* ethnic dominance.

Finally, the last parameter (β_8) in equation (3) allows for a second-order interaction between ethnic dominance, high turnout, and party strength. Given that the first two of these variables are binary, this specification means that I am allowing for a final adjustment to the slope for party strength for those cases ($N = 8$) where there is a dominant ethnic group *and* high turnout. Contrast this with the first-order interactions (β_5 and β_6), which allow for adjustments to the slope for party strength when *either* ethnic dominance *or* high turnout is present. A positive estimate for β_8 would imply weaker party-strength effects when *both* of the other conditions are met, while a negative estimate would imply just the opposite.

Table 3 reports the estimates for two versions of equation (3), one with β_8 constrained to a value of zero, and the other with no such constraint. A very striking feature of both sets of estimates is the fit of the model. To be sure, I have specified a model that in statistical terms involves several parameters. At a theoretical level, however, only four explanatory variables are included, and the model accounts for four-fifths of the variance in elite instability in black African countries in the years between 1960 and 1975. Even when one adjusts for the loss of degrees of freedom resulting from the number of parameters, the fit of the model is impressive.

These estimates also reveal that there is no support for the more complex version of equation (3) that specifies a second-order interaction: the estimate of β_8 in the second column of Table 3 is smaller than its standard error and the corrected coefficient of determination in the same column is slightly smaller than it was in the first column. This means that party dominance has no special effects in countries with *both* high turnout *and* a dominant ethnic group. We can therefore confine our attention to the estimates of equation (3) in the first column of Table 3. In Figure 1, estimated Coup scores from this model are plotted against actual *Coup* scores.[13] Only the Sudan has a residual (12.959) that is larger than the standard deviation of the coup d'état index (12.510), and even this difference is slight. In general, then, this scatterplot suggests no obvious biases in the model, but rather reinforces the earlier impression that the model fits well.

Briefly, the estimates in the first column of Table 3 suggest that each of the four variables has a pronounced effect on elite instability. All of the eight parameter estimates are precise (including $\hat{\alpha}$), in that three of them have *t*-ratios larger than 3.0, while the smallest (that for β_5)

Note incidentally that the binary-variable versions of *C* and *P* are retained in equation (3), since they provided optimal estimates. Thus, this equation constitutes a rather detailed analysis of covariance.

[13] To check on the assumption of homoskedastic disturbances for this model, I followed two procedures. First, as suggested by Anscombe and Tukey (1963), I plotted the fitted values ($\widehat{Coups}$) against the residuals ($Coups - \widehat{Coups}$). Second, as suggested by Johnston (1972, p. 219), I computed Spearman coefficients of rank correlation between the *absolute* values of the residuals and each of the independent variables in equation (3). Neither of these constitutes a formal "test" for homoskedasticity, but because they are nonparametric, both procedures have the advantage that they do not require (unavailable) information on the precise form of the process generating any heteroskedastic disturbances. Neither of these procedures provides evidence of heteroskedasticity in the estimates in the first column of Table 3.

is close to 2.0 (1.68).[14] In addition, these estimates indicate that none of the effects from the analyses reported in Tables 1 and 2 is spurious. The additive positive effects of mobilization and ethnic dominance on elite instability persist, while the separate and joint effects of participation and party dominance described in Table 3 are of form similar to (if slightly weaker than) those reported in Table 2.

At the same time, the figures in Table 3 point to two important elaborations of the results in the last two sections. These modifications concern the joint, nonadditive effects of ethnic dominance and party dominance and turnout, respectively, shown in the negative estimate for β_6 and in the positive estimate for β_7. I shall deal with these in turn.

First, the estimate for β_6 indicates that the stabilizing effect of party dominance is much more pronounced in countries where a dominant ethnic group exists. Where there is no dominant ethnic group, the slope for party dominance ($\hat{\beta}_3$) is $-.202$, whereas the slope for party strength is more than *doubled* in countries where the largest ethnic group constitutes at least 44 percent of the population ($\hat{\beta}_3 + \hat{\beta}_6 = -.519$). This suggests that the integrative role of a strong political party is particularly important when an ethnic group is of a size that makes it potentially dominant.

Second, the estimate for β_7 is positive, which means that electoral turnout does not inhibit coups in countries with a dominant ethnic group as effectively as it does elsewhere. Where a more fractionalized ethnic population exists, the effect of turnout ($\hat{\beta}_4$) is -23.047. However, where a dominant group exists, this effect of turnout is *halved* ($\hat{\beta}_4 + \hat{\beta}_7 = -11.667$). An important implication of these results is that party strength is a more potent stabilizing force than mass political participation in the form of turnout in countries with a dominant ethnic group. In contrast, the effects of these

[14]The fact that $\hat{\beta}_5$ has a *t*-ratio slightly less than 2.0 does not warrant its exclusion from the model, since reestimating equation (3) subject to the constraint that $\beta_5 = \beta_8 = 0$ produces estimates for β_3 and β_4 that are approximately half the size of those reported in the first column of Table 3. In addition, this revised estimate of β_3 has a *t*-ratio of 1.55. This means that β_5 should be retained in the model so that the nonadditive effects of party dominance and electoral turnout are not suppressed.

Table 3. Regressions of Coups d'état, 1960 to 1975, on Mobilization, Pluralism, Party Strength, and Turnout ($N = 29$)[a]

M	Social Mobilization	.227 (.073)	.205 (.079)
C	Size of Largest Ethnic Group	27.666 (7.142)	23.578 (9.041)
D	Percent Vote to Winning Party	−.202 (.091)	−.245 (.108)
P	Electoral Turnout	−23.047 (7.838)	−29.114 (11.315)
D.P	Winning Party Vote * Turnout	.186 (.111)	.281 (.169)
C.D	Ethnic Group Size * Winning Party Vote	−.317 (.104)	−.252 (.136)
C.P	Ethnic Group Size * Turnout	11.380 (4.529)	23.570 (16.866)
C.D.P	Ethnic Group Size * Winning Party Vote * Turnout		−.179 (.239)
Constant		19.129 (7.326)	22.487 (8.649)
R^2		.843	.847
$\bar{R}^2$		.791	.786

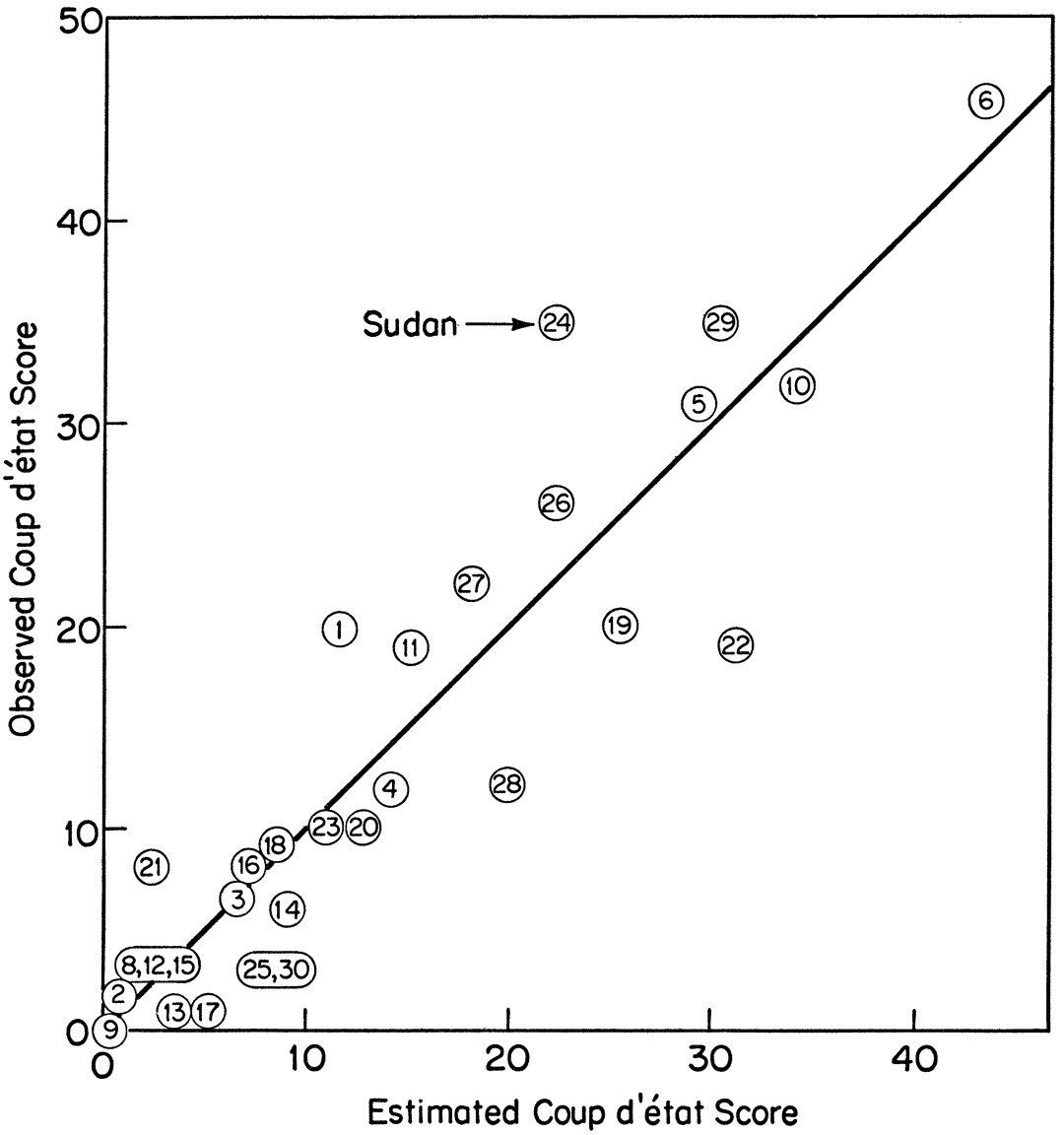
[a]Ethiopia is excluded from this analysis. Main table entries are the parameter estimates, and numbers below them in parentheses are their standard errors.

two political variables are similar in ethnically plural societies.[15]

[15]This judgment depends on the size of the coefficients weighted by the range of the relevant variable. Party dominance (*D*) ranges from 16 to 100, while electoral participation (*P*) is either 0 or 1. Thus, in societies with no dominant ethnic group, the effect of *D* (−.202*100 = −20.2) is similar to the effect of *P* (−23.047).

Summary and Implications

This paper has centered on coups d'état—those illegal efforts by insurgent elites (typical-



[a]Estimated coup d'état scores are from the estimates in the first column of Table 3. Country numbers are provided in the Appendix.

Figure 1. Plot of Observed Coup d'état Scores Against Estimated Coup d'état Scores (*N* = 29)[a]

ly the military) to bypass normal or constitutional channels of executive succession that are accompanied by actual or threatened resorts to physical violence. In particular, we focused on an index covering 16 years that is a weighted sum of successful, unsuccessful, and plotted coups, respectively.

For students of African affairs, one clear inference to be drawn from this study is that *instability of this kind is not random with respect to political and social structure*. Assuming that I have excluded no important independent variables and (even) that my measures are perfectly reliable, this study shows that the idiosyncratic (i.e., random) factors to which Zolberg (1968, p. 71), Decalo (1976, p. 22) and others have alluded cannot account for more than one-fifth of the variance in coups d'état (the presence of unreliability would, of course, further lower the residual variance that we might attribute to idiosyncratic factors).[16]

Instead, the fit of this model that casts coups as a function of structural factors is striking. Far from pointing to a random process, these estimates suggest a rather *deterministic* pattern. It is evident from Figure 1 that the volume of elite instability in the countries of black Africa from 1960 to 1975 can be estimated with a remarkable degree of accuracy, given four straightforward and distinct conditions that are central to the theoretical literature on political instability. Three of these conditions clearly predate the dependent variable, while the fourth (measured c. 1965 to 1966) is a variable that probably underwent little pronounced change in the preceding six years.

Besides these clear implications for African politics, the specific results of this analysis bear on more general discussions of political instability and change. First, social mobilization has a strong, linear destabilizing effect. It is important to remember that this pattern was found among countries that achieved political independence quite recently, which means that these countries do not meet Huntington's initial criterion for institutionalization. The positive effect for mobilization found here is therefore quite consistent with Deutsch's and Huntington's hypothesis concerning the destabilizing effects of social mobilization in countries whose governments lack political capacity.

Second, this analysis suggests that cultural pluralism has important consequences for political instability. However, in contrast to the usual view (e.g., Deutsch, 1961; Rabushka and Shepsle, 1972), it appears that ethnic diversity (that is, cultural pluralism) is a *stabilizing* force. Political instability seems to result when one group's size (at least 44 percent of the population) makes it dominant. This implies support for the Madisonian view that the presence of such dominant groups prevents the formation of countervailing power centers that help inhibit political instability (c.f., Dahl, 1956, Ch. 1; Coleman, 1960, p. 368). Presumably, the formation of broad coalitions in favor of a coup or the elimination of alternative coalitions that might mount a counter coup is inhibited as the ethnic diversity of a society increases. Thus, the present study affirms the centrality of ethnicity to the study of African politics; it suggests that the presence of a large and potentially dominant group has destablizing results. Note, however, that no support was found for the view that variations in ethnic pluralism alter the effect of social mobilization on coups.

Third, the results show that party dominance is stabilizing (while multipartyism has the opposite effect). This suggests that one-party dominance is probably an integrative force. Such an interpretation is strengthened by the analysis of the *combined* effects of party dominance and ethnic dominance. The size of the already pronounced stabilizing effect of party dominance is more than doubled as we move from plural societies to those in which there exists a dominant ethnic group (the coefficient for party dominance changes from $-.202$ to $-.519$). This pattern indicates that multipartyism is particularly destabilizing when coupled with the presence of a dominant ethnic group.

Fourth, the results indicate that increased electoral turnout *decreases* the probability of coups. This is consistent with Deutsch's emphasis on the stabilizing effects of political participation, where the latter, by increasing the number of politically relevant persons, diminishes the chances of successful covert illegal political activity instigated by small numbers of people. However, my argument is slightly different from his, since a different pattern holds for the effects of *social* mobilization (which, it will be remembered, is uncorrelated with turnout in these African countries). I think these

[16]Of course, I am not claiming that these measures are perfectly reliable: as I have already noted, potential sources of unreliability are extensively discussed by Morrison, et al. (1972). The fit of the model does suggest, however, that unreliability is not a major problem (simply because its presence would be reflected in attenuated correlations). In conjunction with the parameter estimates, the fit of the model can also be viewed as evidence favoring the validity of the measures I have used.

results suggest that regardless of the degree of *social* mobilization, *political* mobilization in the form of higher levels of mass electoral participation may reflect a higher degree of acceptance of conventional, nonviolent processes of elite succession. If this acceptance is in fact widespread at the time of independence, it may mean that subsequently the population and the politically relevant strata are less likely to respond favorably to violent and extraconstitutional attempts to seize power. Such a pattern would be consistent with the observed stabilizing effect of higher turnout at independence. Note that such considerations imply that Huntington's emphasis on the need "to restrict or to control political mobilization" (1968, p. 425) may be misplaced. Normal forms of *mass* political participation seem generally to be as salient as party strength when it comes to creating a stable political order.

The principal qualification to this statement is that the inhibiting effects of mass turnout on coups are weaker (by a factor of one-half) where a dominant ethnic group exists than they are in more plural societies. This means that in the former situation, party strength is more important than voter turnout. I hasten to add that even then, the effect of turnout on instability remains pronounced and negative.

Finally, the estimates provide no support for the argument that party strength has a unique impact on elite instability in countries with high turnout *coupled with* a dominant ethnic group. At the same time, the estimates *do* indicate that turnout and party strength have a nonadditive effect. More specifically, the stabilizing effect of party strength is quite pronounced when turnout is low, but it disappears where turnout is high. This implies that the stabilizing roles of party strength and voter turnout may be somewhat interchangeable.

In short, the analysis suggests that both social mobilization and the presence of a potentially dominant ethnic group have destabilizing consequences, at least in the context of the new nations of black Africa. The first of these variables is one that changes relatively slowly, while the second is even less responsive to conventional political action. However, the results indicate that the destabilizing results of these two "social" variables, especially ethnic dominance, are substantially reduced by two "political" factors (mass participation and party strength). My emphasis on the role of strong political parties is hardly original. More novel is the clear implication of this analysis that the stabilizing impact of *mass* political participation may generally be as important as is the consolidation of political parties (an activity that is primarily in the hands of political elites). This suggests that besides its uncomfortable normative implications, the common argument that restricted participation brings stability may be more myth than fact.

Appendix: List of Countries

1. Burundi
2. Cameroon
3. Central African Republic
4. Chad
5. Congo-Brazzaville
6. Dahomey (Benin)
7. Ethiopia
8. Gabon
9. Gambia
10. Ghana
11. Guinea
12. Ivory Coast
13. Kenya
14. Liberia
15. Malawi
16. Mali
17. Mauritania
18. Niger
19. Nigeria
20. Rwanda
21. Senegal
22. Sierra Leone
23. Somalia
24. Sudan
25. Tanzania
26. Togo
27. Uganda
28. Upper Volta
29. Zaire
30. Zambia

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