Coups d'État in Africa: A Political Economy Approach

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Current explanations of African coups d'état concentrate on national political factors and generate predictive models for both successful and unsuccessful coups. The explanation offered here challenges these approaches through the application of a probabilistic theory and the model deduced from it which have already demonstrated their value for coups in general. This theory holds the underlying causes of successful coups to be economic rather than political, and views coups as the consequence of the lack of political control which results from the domestic uncertainties produced by world market trade. Specifically, it is argued that the underlying causes of coups are specialization in and dependency on primary goods for export, exacerbated by poverty. Such preconditions render even the most responsible governments open to accusations of incompetence and corruption, so inviting coups d'état. The chance of a successful coup actually occurring has, though, also to take into account the existence of factors which hinder coups. Two general obstacles are suggested: the absence of a previous coup and the continuing or historic presence of foreign troops since independence. A testable hypothesis is deduced from this theory which is examined through the application of discriminant analysis to data for three sets of African countries. The models produced are shown to support the theory and predictions for future coups and policy implications are considered. In sum, by no means all African countries are predicted to have coups d'état and in a substantial proportion of cases escape from future coups can be avoided only through international trade policies.

1. A Conflict-Ridden Continent

Africa suffers a disproportionate share of social, economic and political disasters and the suffering seems relentless as tales of military takeover, civil wars, economic debt and famine mount. It is evidently not a continent at peace. As a whole, the countries of Africa have a reputation for undemocratic and corrupt governments where coups d'état are rife and military government is the norm. Such a view is heightened for ‘black’ Africa where military dictatorships, and particularly brutal ones at that, are taken as characteristic. All too easily, bad governments are blamed for the economic, social and political problems which each African country faces. There is, of course, a basis of truth in the popular view. Such generalizations, however, conceal important differences between countries. By no means all African countries are subject to coups d'état and the idea that all these countries are ruled by coup-installed military regimes is a misrepresentation of the truth, misrepresentative of black Africa and not only the continent as a whole.

This popular view of government in Africa has also affected political science approaches to understanding coups d'état. First, when seeking explanation for coups, attention has mostly been directed to political factors, such as the nature of the party system, the level of participation and characteristics of the now, evidently, politicized military. Second, it has been the custom to concentrate not on successful coups alone, but also on attempted coups and usually plots as well. These events are mostly added together into a coup ‘index’, thus enhancing the impression that African countries (even those where no successful coup has ever taken place) are essentially similar, with differences only of degree (Jackman, 1978; Johnson et al., 1984; Wells, 1974). In concentrating on Africa, the impression has also been created that African coups are special (Johnson et al., 1984; Lunde, 1991). The approach offered
here differs in all three respects. It offers an explanation for coups which focus on economic rather than on political factors; it develops a model which aims to discriminate between countries on the basis of whether or not they have had a successful coup without inclusion of attempted coups or plots; and it explains successful coups in Africa through the application of a theory and the model deduced from it which were developed to apply to all coups, irrespective of area.

2. **Coups: The State of the Art**

In recent years, interest in coups d'état, and their statistical analysis in particular, has focused on Africa. Jackman (1978) employed data for the new states of black Africa to generate a predictive model informed by existing general hypotheses about 'elite instability'. This work stimulated further interest in African coups, producing fresh examination and development of the model (Johnson et al., 1984; Lunde, 1991). These general hypotheses about elite instability on which Jackman drew were contained within the literature on social mobilization (initiated by Deutsch, 1961) and that on cultural pluralism (associated with Geertz, 1963 and Kuper & Smith, 1969). In addition to these broad categories of hypotheses, Jackman also incorporated two narrower ones concerning party systems and mass participation, the former found in Deutsch (1961) and the latter in Huntington (1968). Recognizing that the literature contained not simply disagreements over the relationship between these factors and elite instability but directly opposed claims, Jackman open-mindedly (but therefore also inductively) permitted his multiple regression model to decide between these competing explanations on the basis of the direction of causation revealed by the correlation signs. The general importance of these factors was confirmed by the significance of the variables operationalized to represent these 'structural determinants'. The continuous dependent variable was constructed through the addition of successful, unsuccessful coups and plots, weighted by 5, 3 and 1 respectively. The results indicated that nearly 80% of variance had been explained by the regression equation.

The variables included in Jackman’s model were the following: the sum of the percentage of the labour force in non-agricultural occupations in 1966, plus the percentage of the population which was literate in 1965 ('social mobilization', $M$); a dummy variable, equal to 1 where the population in the largest ethnic group was at least 44%, and 0 otherwise ('cultural pluralism', $C$); 'the percentage of the vote cast to the winning party in the election closest but prior to the date of independence' (p. 1268) ('party dominance', $D$); a dummy variable, equal to 1 where electoral turnout at that election was more than 20%, and 0 otherwise ('political participation', $P$); and, in addition, four interactive variables $D \times P$, $C \times D$, $C \times P$ and $C \times D \times P$. On the basis of his findings, Jackman (1978, p. 1273) concluded that social mobilization is destabilizing 'in countries whose governments lack political capacity', ‘affirm(ed) the centrality of ethnicity to the study of African politics’, ‘that one-party dominance is probably an integrative force’, and that ‘increased electoral turnout decreases the probability of coups’.

Jackman’s model has been criticized by Johnson et al. (1984), but their own adaptation of Jackman’s model has itself been heavily criticized for, among other things, their a-theoretical approach, their ill-considered addition of cases and the inclusion of variables in the model which are tautological or inappropriate operationalizations (Jackman, 1986; O’Kane, 1986). Lunde (1991), whilst broadly accepting Jackman’s mobilization approach, has taken issue with the dependent variable and has employed event history rather than cross-section analysis.

The problems which follow from employing a composite index of coups, including unsuccessful coups and plots as well as successful ones, has been dealt with at length elsewhere (O’Kane, 1993). In brief, an inherent flaw in conceptual logic is involved. Ignoring Sartori’s (1970, 1991) ‘ladder of abstraction’, the purpose of comparison –
for similarity and difference against controls – is destroyed as like is turned into unlike and unlike into like. As a consequence, the statistical results, whatever their levels of significance seem to convey, are in fact misleading. Through detailed examination of both Jackman’s and Johnson et al.’s coup indices in relation to recent African political history it is shown, in confirmation of Sartori’s conceptual logic, that concepts employed in the analysis of general causal hypotheses must be defined through the logic of negation and, in such general analyses, examination for differences of kind must precede investigation for differences of degree (O’Kane, 1993). For coups d’état in particular, this means that for the examination of general causes appropriate statistical techniques are those which employ a dichotomous dependent variable, and for successful coups only.²

Conceptual problems and appropriate technique aside, however, what is interesting about Jackman’s model is its failure to link coups d’état to economic conditions, especially in view of Deutsch’s (1961) original formulation of social mobilization which explicitly included economic growth as necessary for the expansion of services required for increased political participation.³ Economic performance is important to all governments and for coups in Africa Decalo (1985) has noted that the accusations of incompetence or corruption which normally either precede coups or are later used to justify them are usually framed in terms of economic performance. An explanation for the structural causes of coups, which in its deduced testable hypothesis gives such emphasis to the size of the largest ethnic group and ‘political participation’, based on a 20% cut-off point for electoral turnout in pre-independence elections, in any case, lacks conviction as a pointer to a general explanation of coups as opposed to one specifically designed for Africa. Furthermore, if intended to be applicable to Africa alone (as the later reworkings of the model have seemed to assume) then the model has neglected an important element of Zolberg’s (1968) examination of African coups. Cited by Jackman (1978, p. 1262) as arguing for the general similarity of conditions in tropical Africa, Zolberg also argues for consideration of factors which can act to restrict or promote coups in some countries but not others.⁴

As will be demonstrated below, consideration of obstacles to coups proves productive. It will also be shown that, whether for tropical Africa or the continent as a whole, in respect of economic conditions related to international trade, the countries of Africa, in fact, differ significantly and that it is these economic factors which make African countries (and non-African countries) susceptible to coups d’état. In considering the world market this explanation for coups also differs in introducing an international perspective to existing national explanations.

3. A Probabilistic Approach

Whilst then, in recent years, interest has been directed to African coups, coups have occurred with even greater frequency in Latin America and have featured not only amongst ex-colonies elsewhere in the Third World but even in Western Europe, as in Portugal 1974 and in Greece 1967 and 1973. In recognition of the fact that coups have taken place in all areas of the world, I originally developed an explanation for coups which yielded a predictive model for the 125 countries in the world, independent in 1970, with populations of over half a million, for which the required data were available (O’Kane, 1981). The theory was later expanded (O’Kane, 1987). This explanation of coups is probabilistic; it seeks to understand the conditions which generally underlie coups d’état, making their occurrence likely, whilst reserving recognition of the importance of more specific factors which affect whether they actually happen. In as far as generalizations can be made about such factors, conditions acting as ‘obstacles’ to coups are included. A probabilistic approach also has the attraction of reflecting the unpredictable aspects of human behaviour (MacIntyre, 1981, ch. 8).

This probabilistic explanation for coups, unrestricted by area, hinges on the views
that in the modern world countries must be considered within their international as well as their national settings and that of all governments' responsibilities, it is generally economic performance which is the most important. These two views combine to focus on international trade and, in particular, on national production for export. This focus directs attention away from narrow political explanations for coups, which concentrate on the personality and motives of the existing politicians or military usurpers, towards the links between economic performance and political instability. Accepting that 'sometimes certainly governments are incompetent, corrupt or both, the approach explores preconditions for coups which give rise to claims of government irresponsibility, independent of the justice of such accusations. Whilst recognizing that it is open to groups to attempt coups, the probabilistic approach adopted concentrates on the causes of successful coups. Coup attempts and plots doomed to failure may be linked to a host of personal desires or wishful thinking and it is, therefore, only the successful coup for which it is reasonable to seek general underlying conditions. If the conditions are ripe, initial failure through misplaced strategy should soon meet with success.\(^5\)

Drawing on theories of international trade, the economic conditions which are argued to give rise to economic instability and general uncertainty in the economy and so encourage adverse accusations of even competent and trustworthy governments, are typically found in countries where the economic sector produces primary goods for export and trades them on the world market. Crucially, the governments of such countries each lack economic control over world market prices, over world levels of production, over foreign demand for goods and therefore the country's total trade earnings. If a change in price occurs, export earnings will be affected and the government will have little or no control over the consequences. Additionally, little control can be exerted over variations in home production of these goods, which also affects earnings.\(^6\) When government revenues come largely from taxes on foreign trade and on the export sector, which they usually do in such countries, then volatile export earnings will make it particularly difficult for the government to provide services and to make plans, such as for economic development (Helleiner, 1972, p. 85). Such governments face enormous odds against achieving anything of substance.

Whilst then, in general, such countries producing primary goods for export potentially face unstable economies which in turn undermine political stability, the relationship between the economy and coups is, however, neither so regular nor so simple. So long as fluctuations in world market prices are at worst small, or have only few repercussions on the economy as a whole, then economic instability will not normally follow from instability in exports. It is this consideration of the relationship between the world market and the differences within local economies which proves important in reaching an understanding of the conditions which underlie coups.

3.1 The Preconditions of Coups

The preconditions of coups are the combination of factors which, first, encourage the occurrence of large export price fluctuations and, second, increase the likelihood that the effects of these fluctuations will be to encourage instability in the local economy and so discredit the government. For large export price fluctuations it is the nature of the exports which is important. Primary goods like coffee, cocoa, copper and cotton are highly susceptible to large fluctuations in their world market prices. The causes of this differ. For agricultural goods this is the consequence of the relative inflexibility of response by purchasers to changing prices in combination with the variability in the quantities produced as a result of the vagaries of weather, disease and pestilence. For metal ores and mineral exports, however, the large fluctuations are the consequence of too much variation in demand, the result of business cycles and speculation in the consumer industrial nations, coupled with the producer's inability to change production
sufficiently quickly to meet the changed demand.

Poorer countries are additionally disadvantaged in attempts to control these large fluctuations. Lack of technical and financial resources will exacerbate agricultural crises and scarce resources and shortage of skilled workers will additionally slow responses to the market for metals and minerals. Unless a country produces a large percentage of the total trade in one of these commodities, which none do, no country alone would succeed in affecting the world market price. Attempts to unite countries in order to control prices artificially, with the exception of petroleum, have also met with little success.

For explaining coups, whilst large price fluctuations in exports are important, it is the likelihood of these large fluctuations having damaging repercussions within a country which is crucial. Here specialization in exports, the dependence of the economy on its export sector and, again, the country’s wealth are the relevant factors. Specialization in exports is important because where there is diversification of exports, price fluctuations in any particular product may be offset by fluctuations in the opposite direction of other goods or be at least cushioned by their relative stability. Where a single major export forms a large percentage of all exports, however, the effect of a large price fluctuation in that good is very likely to produce general economic instability where that export industry is also the major employer, this will be particularly likely to create repercussions throughout society. Again, this is most likely to be the case in poor countries, where labour-intensive methods of production are generally used.

Even so, a country which exports a single main product may still not be affected by economic instability if the good’s export does not play an important part in the economy. This is where dependence on exports becomes crucial. The dependence of a country’s economy on the export sector is not, however, a simple matter of how much earnings from exports contribute to national income. To quote Gunnar Myrdal on the poor countries of Asia, . . . the instability of export earnings, even for those countries that export little, creates recurrent crises in balance of payments that not only divert attention from other facets of development, but also impede the importing of vital development products (Myrdal, 1972, p. 91).

Countries which are only just beginning to attempt to develop their economies by means of growth through the export sector are just as ‘dependent’ on their export earnings as are countries whose national income is made up largely from the sale of exports. This dependence is also affected by the internal market for the goods. In the same way that the export of a selection of goods helps cushion the effect of fluctuations in one of them, so the existence of internal demand for them can sometimes also soften the effects on the general economy. A country which produces rice, for example, is in this sense less dependent on exports than a country which, say, produces cotton. A country with some capacity for processing or even manufacturing its products for the home market can likewise reduce its export dependency, possibly diversifying its exports at the same time. Again, however, any country with such possibilities would be highly unlikely to be among the poorest nations. With few exceptions, primary products do not have large home markets and countries producing them are especially dependent on external markets (Myrdal, 1972, p. 92; see also the classic: Singer, 1950).

In sum, the argument then is that the more dependent on exports and the more specialized in production of primary goods for export a country is, the more likely it is that that country will suffer from unstable export earnings which generate widespread economic instability over which the government has particularly little control.

3.2 The Link Between the Economy and Politics

Faced with an unpredictable economy, volatile export earnings and erratic government revenues, even essentially competent and trustworthy governments are made to appear incompetent. Under some circumstances, such governments may also be
made to appear corrupt. Even assuming that the resources will be available to try them, each policy option tried by these governments will bring its own set of additional problems. Inaction is likely to reinforce the image of incompetence with that of insensitivity. Policies which might be tried, such as the holding of foreign currency exchange reserves, would mean the sacrifice of much needed revenues had the reserves been put to other uses, whilst borrowing from abroad would not only represent a loss through interest payments but could increase risk to the economy in the longer term through the added unpredictability of the interest rates themselves. Attempts to impose import controls in order to avoid balance of payments problems when export earnings fall would affect other industries dependent on imports. These industries, unable to achieve full production, would then suffer loss of income and would increase unemployment.

Whatever policies the government tries, the export instability will create problems which put the government in an unfavourable light. Throughout the economy, the air of uncertainty produced by both actual and anticipated fluctuations would be likely to lead to a general unwillingness to plan and invest, ignoring important local needs in favour of safer investments, and this would again add to the government’s own planning difficulties produced by the volatile export revenues. Furthermore, fluctuations in foreign exchange earnings produced by the instability in exports would affect not only levels of employment and wages in the major export industry, but also the level of income in the economy as a whole and the general level of prices and employment might also be affected. For poorer countries such consequences would be likely to prove especially damaging.

Additional difficulties might also occur in countries which are divided by social cleavages, where these cleavages are reinforced by production and employment differences. Export fluctuations can suddenly and seemingly arbitrarily redistribute income, making some groups, some regions, suddenly better or worse off (MacBean, 1966, p. 28). Where the government is itself predominantly comprised of people from one region, tribe, ethnic group, race, or religion, such fluctuations could lay the government open to accusations of corrupt manipulation which could then be made worse if, in an attempt to smooth out fluctuations, the government sets up export organizations such as marketing boards, credit agencies and information bureaux or introduces direct export subsidies.9

Whether arising separately from fluctuations in prices, production, or earnings, or in combination and whether erratic or on a predominantly downward or upward spiral, export instability can create economic chaos and social injustices which pour contempt upon the government however responsibly it has endeavoured to react. In such export economies, rather than wilful incompetence and active corruption, it is essentially lack of control over the economy which puts governments at risk of being overthrown by a coup d’etat.

The coup strategy is a particularly attractive mechanism for overthrowing such governments. The legal way of changing a government – an election – even in countries where the staging of one might be a real possibility, would be unlikely to be called at the height of the government’s unpopularity.10 Over unpredictable, drawn out elections, the speed of the coup, anyway, is an attraction and compared with other illegal forms of government, coups are also highly efficient. A coup d’état can be staged by a small number of people with few weapons and it is the most likely method for obtaining government office with least loss of life.11

3.3 Obstacles to Coups

A group of conspirators’ decision actually to intervene, however, will be based upon calculation of the chances of success. It follows from the above arguments that they will choose a time at one of the peaks of the government’s loss of support, the culmination of the underlying export-induced economic instability. Conspirators may, though, in their calculation of their chances of success take into consideration other factors, some highly specific to the country,
others more general. Originally, three general obstacles were suggested: recent independence, the absence of a previous coup and the presence of foreign troops capable of combat. These obstacles are in no sense offered as causes of coups, but they are likely to reduce the chances both of the conspirators attempting a coup and if attempted of its being successful.

The first obstacle, recent independence (within five years), was based on the view that it takes time for a government of new independence to demonstrate its capabilities (Zolberg, 1968, p. 87). This obstacle has now ceased to be a consideration. The second obstacle, previous experience of coups, was based on the calculation that where no precedent has been set conspirators, for fear of failure, will first try less drastic measures than total government takeover, whilst on the other hand, once a coup has occurred the strategy will appear more appealing, more likely to succeed (Zolberg, 1968, p. 80). The earlier coup may also, in practice, place the new conspirators in better positions for staging coups too. This is especially likely to be so for military personnel.

The third obstacle, the presence of foreign troops capable of combat also drew on the normally critical part played by the armed forces in coups d'état. At a minimum, in order to prevent the coup's failure the army must be neutralized. Usually the army's active support is sought. The view was taken that foreign troops would be particularly unlikely to be sympathetic and where such troops were equipped for combat, capable of taking action against conspiracy, or where found in high ranking positions within the local army, such foreign troops would offer serious obstacles to coups even where their necessary underlying economic preconditions were strongly felt. The presence of such troops would be likely not only to hinder a coup's success but to reduce its chances of being staged in the first place.

4. The Testable Hypothesis and Past Predictions

This general explanation for coups yielded a testable hypothesis. The probability of a successful coup in any country is a function of: the specialization of its export production; the dependence of its economy on export earnings; the nature of its exports; its poverty; and the absence of three obstacles – recent independence, the lack of any previous coup, and the presence of foreign troops capable of combat.

Discriminant analysis was originally employed to test this hypothesis for the period 1950–70, using economic data for 1968 for 125 independent countries (all the countries independent in 1970 with populations of over half a million, for which data were available). The technique was ideally suited as a means for discriminating between countries which had had at least one successful coup as opposed to those which had never experienced a successful coup. Being designed to discriminate between the presence and absence of an event and not for differences of degree, discriminant analysis does not violate conceptual logic (O’Kane, 1993). A discriminant model for the occurrence or non-occurrence of a coup was generated which predicted the occurrence of a coup in a variety of countries which had previously had no coup.

For Africa, these predictions – from the highest probability to the lowest – were that Ethiopia, Rwanda, Guinea, Chad, Mauritania, Kenya, Liberia, Niger and Morocco would each have their first coup d'état. With the exceptions of only Kenya and Morocco each of these countries have gone on, since 1970, to have at least one coup. The only African country for which the predicted score was found to be out of line with its actual score, Congo, has not had a successful coup since 1968. The Gambia, Madagascar, Malawi and Senegal were each predicted to have a coup if foreign troops were to leave the country, a prediction confirmed for Madagascar after the French troops departed. Lesotho and Swaziland were also shown to be the two African countries likely to have coups after the advantages of new independence had ended. Lesotho has since
gone on to have two coups, one in 1986 and the other in 1991.

The passage of time has then confirmed the value of these predictions for Africa and justified the claim that an understanding of the causes of African coups is to be gained through an explanation for coups in general. This can be further confirmed through a re-estimation of the predictive model for purely African data.

5. The Model for Africa
There is debate over whether or not datasets for Africa should be restricted to those with closely similar backgrounds, such as the countries of tropical black Africa (Jackman, 1986; Johnson et al., 1986; O’Kane, 1986; Zolberg, 1968). The penalty to be paid is a limitation in the variation of variables, here for the economic ones in particular, and the consequent reductions in their levels of significance (O’Kane, 1983). To acknowledge this debate and to reflect the existing analyses, three datasets were constructed: the first for tropical black Africa, the second for black Africa, and the third for the continent as a whole.16

The operationalization of variables followed the pattern employed for the original model, with the added advantage that data are now more readily available. All the economic data were obtained from a single source, the United Nations Conference on Trade and Development Handbook of International Trade, Supplement 1986. This had the double advantage of reliability and ease of replication. Of particular value, a ‘concentration index’ is now available to represent the value of the major export as a percentage of total exports.17 The year 1983 was chosen as representative for this economic data being recent enough to offer a more complete dataset than earlier years whilst, at the same time, approximating mid-way between most African countries’ first coups and the present.18 For the qualitative variable, the dependent variable, being a country which had had a successful coup as opposed to one which had not had a successful coup, the full span of years between 1950 and 1990 could be covered. For consistency this was also the case for the qualitative dependent variable, having had a previous coup; in practice, all countries which had had more than one coup had had their first coup before the end of 1977. These countries ($X_4 = 1$) were as follows: Benin, Burkina Faso, Burundi, Central African Republic, Ghana, Mauritania, Nigeria, Sierra Leone, Sudan, Togo and Uganda. (For details of the coding, see Appendix.) With Zimbabwe, in 1980, the last country to gain independence, the new independence obstacle had ceased to be relevant.

For the relevant African countries the foreign troops obstacle had been recorded in the original model as follows: (i) foreign officers on secondment to the local army (or police force where no army exists): Botswana, Cameroon, Gabon, Gambia, Malawi, Mauritius, Zambia; (ii) foreign armoured divisions (not missile bases): Chad, Ivory Coast, Madagascar, Niger, Senegal. After independence defence in Botswana had relied on the British officered police force of around 750 men. In Cameroon French officers commanded Cameroonian army units. In Gabon, the gendarmerie (of about 600) was headed by French gendarmes (60 French officers) and in addition 400 French forces were stationed there (Gabon therefore qualified under both i and ii). In Malawi, the local army was in part commanded by British officers, with about 50 officers and NCOs. In Mauritius, lacking its own defence force, under an agreement, Britain defended the island and troops were flown in to assist the police force in 1968. In Zambia, British officers and NCOs were recruited to the Zambian army and additional ones seconded where needed. In Chad, Ivory Coast, Madagascar, Niger and Senegal, French fighting troops were stationed. Chad and Senegal had the two major French bases and from these bases troops intervened in Congo in 1963, Gabon in 1964 (to reverse a coup) and in Chad itself in 1968. Around 2,000 troops were stationed in Chad, 1,300 in Senegal, 480 in Ivory Coast, 1,250 in Madagascar and 220 in Niger.19
5.1 Changes in Foreign Troops

Changes had naturally taken place in the foreign troops obstacle; these changes were as follows. In Gambia, since the formation of Senegambia in 1982, troops of the Senegal army have been stationed there. In Niger, the 220 French troops left, on request, after the 1974 coup (there were 2,500 local forces). The French troops left Madagascar in 1972, before the coup d’état. In Chad, the French troops began to withdraw in 1979, four years after the coup, being replaced by a neutral peace-keeping force until 1981 when, as a consequence of invasion, Libyan troops occupied the country. In 1983, 3,000 French troops returned. Cameroon, Malawi and Zambia no longer have foreign officers in command positions within their armies with British officers gradually being replaced from 1970 in Zambia, from 1980 in Malawi and from around 1975 in Cameroon (for sources see endnote 19).

Some changes have also occurred for other African countries. Angola, not being independent in 1970 and therefore not included in the original dataset, had 19,000 Cuban troops (rising to 50,000) and some Portuguese troops stationed there at independence. These have been being gradually withdrawn since 1989 (Keesing’s, 1989, p. 36388; 1990, p. 37556). In addition to these cases there have been foreign armies brought in after independence at various times. For example, 750 Cuban troops were stationed in Congo after the 1968 coup and in Egypt around 20,000 Soviet combat troops were present between 1967 and 1972 (see endnote 19 and Kurian, 1982, in particular). In 1977 around 15,000 Cuban troops were deployed in Ethiopia, being later reduced to 2,000 and before 1977 Cuban troops had been present in Somalia (Keesing’s, 1989, p. 37063). These changes presented problems for operationalization of this foreign troops obstacle. Whilst troops arriving for spells after independence are likely to have acted as a hindrance to coups once in the country, it is impractical to test their importance in a cross-section analysis. Theoretically, too, their historical link with independence is lost.

There seems to be a special significance attached to foreign troops present at independence, entering later into a gradual withdrawal whereby the local army gains the benefit of time and experience to establish itself in the modern mode of any army which serves the state rather than being masters over it. In the early days of newly independent Africa it was common for political scientists to write about the new African armies in glowing terms as ‘modernizers’, and in these terms military coups were viewed as functional to political and economic growth (Janowitz, 1964; Pye, 1962). Experience has seriously challenged such views, the horrors revealed after the overthrow of Amin in Uganda and Bokassa in Central African Republic for example, both of which regimes were installed by coups and each clear counter-evidence to modernization (Decalo, 1985; and for wider criticisms, Pinkney, 1973). The difficulties faced by any government of a country with an export-led economy have been highlighted here. Crucially though, whilst it is not to be denied that military governments can, on occasion, be modernizing, generally speaking direct army intervention into government is not modern, in the sense of being the sort of thing which goes on in developed countries.20

Essentially then this obstacle to coups, the presence of foreign troops, has highlighted important differences between African countries in respect of their military histories and the nature of the relationship which has developed between the military and the state. Countries which have experienced such histories continue to be ones where the military will be unlikely to support a coup whether actively or passively, through inaction. Their duty is to the state. Today, operationalization of this foreign troops obstacle needs to reflect history, indicating a foreign heritage of military–state relations and not the straightforward obstacle of actual presence of the original model. This view is especially persuasive for countries where foreign officers were seconded to local armies.

For countries where foreign combat troops were stationed but did not hold com-
mand posts in the local army, this ‘obstacle’ effect after departure is both more questionable and the impact of these troops more likely to differ from case to case. As troops were present in both Niger and Chad at the time of their coups, however, and the two cases run counter to these arguments about the importance of foreign troops, it is crucial that in order to avoid bias these two cases are coded as having the obstacle present. The smallness of the number of French troops (220) compared with the number of local troops (2,500) in Niger is probably relevant and in Chad the overthrow of Tombalbaye surely suited the French. Madagascar, however, where the French troops withdrew in 1972 before the coup d’état in 1975, does not count as having the obstacle. Not only did these troops not intervene during the May 1972 strikes and demonstrations but, unlike all the other cases, those troops did not have responsibility for either external or internal defence. The Madagascar armed forces at the time numbered around 4,500 and there were about 4,000 gendarmerie (Keessing’s, 1972, p. 25286). Mauritius seemed to be the only other country where doubt remained. Strictly, British forces had not been stationed in Mauritius since independence and whilst troops had been flown in to help with internal disturbance, the agreement was actually to defend the country against external threat. It was decided therefore that Mauritius’ military relationship with Britain differed too much from the other cases to be included within the obstacle.

Countries classed as having the foreign troops obstacle since independence, now historical or current \((X_6 = 1)\), were the following: Angola, Cameroon, Chad, Gabon, Gambia, Ivory Coast, Malawi, Niger, Senegal and Zambia (Botswana was not included in the dataset).

6. The Discriminant Model for African Coups
Following the original model, the economic variables were transformed to represent the theoretical arguments as closely as possible: GNP per capita, representing the country’s level of poverty, was transformed into logarithms, as too was the concentration index representing the value of the major export as a percentage of total exports. The theory argues that a coup would be more likely to occur at the lower levels of GNP per capita and more likely to occur at the higher levels of export concentration (for discussion and illustration of transformations, see Ezekiel, 1949). The expected direction of correlations would be negative in the former case and positive in the latter. The dependence on exports, the value of the total proceeds of the major export as a percentage of National Income was transformed by \(Y = a + bX + cX^2\). This would result in a U-shaped relationship if \(b\) were negative and \(c\) positive, indicating that countries in the middle ranges of these percentages would be least likely to have coups whilst those at the highest values of \(X\) (economies especially dependent on a single export) and lowest (Myrdal’s new exporters) would be most likely to have coups. As for the original model, a variable to represent the primary nature of the major export was not included, the nature of the export being reflected in the syndrome of the other economic conditions included in the model.

Discriminant analysis was then applied to the three sets of data for Africa with the dependent variables calculated according to the formula

\[
Z_i = Y_i - \frac{n_1}{n_1 + n_2}
\]

where: \(Y_i = 1\) where at least one coup had occurred between 1950 and 1990

\(= 0\) where not so

\(n_1 = \) the number of countries having had coups

\(n_2 = \) the number of countries not having had them.

For regression 1 the \(Z\) scores were +0.31 and −0.69 and for regressions 2 and 3 the \(Z\) scores were +0.36 and −0.64. The results are presented in Table I.

Turning to Table I, initial inspection indicates considerable similarity both between these three regression models produced for African data and the original general model.
Table I. Discriminant Analysis for Coups d'État in Africa

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Regression 1</th>
<th>Regression 2</th>
<th>Regression 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tropical</td>
<td>African</td>
<td>African</td>
</tr>
<tr>
<td></td>
<td>Black Africa</td>
<td>Continent</td>
<td>Continent</td>
</tr>
<tr>
<td>( X_1 ) = Log (GNP per capita 1983 in US dollars)</td>
<td>-0.298</td>
<td>-0.372</td>
<td>-0.149</td>
</tr>
<tr>
<td></td>
<td>(2.13)</td>
<td>(3.40)</td>
<td>(1.92)</td>
</tr>
<tr>
<td>( X_2 ) = Log (Value of major export as a % of total exports for 1983 in US dollars)</td>
<td>+0.359</td>
<td>+0.420</td>
<td>+0.658</td>
</tr>
<tr>
<td></td>
<td>(1.70)</td>
<td>(2.20)</td>
<td>(3.33)</td>
</tr>
<tr>
<td>( X_3 ) = Value of total proceeds of major export as a % of National Income for 1983 in US dollars</td>
<td>+0.005</td>
<td>-0.006</td>
<td>-0.021</td>
</tr>
<tr>
<td></td>
<td>(0.23)</td>
<td>(0.35)</td>
<td>(1.03)</td>
</tr>
<tr>
<td>((X_3)^2)</td>
<td>+0.0001</td>
<td>+0.0004</td>
<td>+0.005</td>
</tr>
<tr>
<td></td>
<td>(0.346)</td>
<td>(1.115)</td>
<td>(1.222)</td>
</tr>
<tr>
<td>( X_4 ) = Dummy</td>
<td>+0.308</td>
<td>+0.339</td>
<td>+0.278</td>
</tr>
<tr>
<td>1 = has had at least one previous coup during the years 1950–90</td>
<td>(2.10)</td>
<td>(2.75)</td>
<td>(2.08)</td>
</tr>
<tr>
<td>0 = has not</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( X_5 ) = Dummy</td>
<td>-0.397</td>
<td>-0.352</td>
<td>-0.475</td>
</tr>
<tr>
<td>1 = Continued presence or heritage of foreign troops in country from independence</td>
<td>(2.50)</td>
<td>(2.69)</td>
<td>(3.55)</td>
</tr>
<tr>
<td>0 = not so</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>+0.204</td>
<td>+0.474</td>
<td>-1.581</td>
</tr>
<tr>
<td></td>
<td>(0.17)</td>
<td>(0.44)</td>
<td>(1.67)</td>
</tr>
<tr>
<td>( N )</td>
<td>29</td>
<td>36</td>
<td>42</td>
</tr>
<tr>
<td>degrees of freedom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( R^2 )</td>
<td>.67</td>
<td>.68</td>
<td>.59</td>
</tr>
<tr>
<td>( \bar{R}^2 )</td>
<td>.58</td>
<td>.62</td>
<td>.52</td>
</tr>
<tr>
<td>( F )</td>
<td>7.52</td>
<td>10.48</td>
<td>8.52</td>
</tr>
</tbody>
</table>

Calculated by YStat87 (1987).

(see endnote 14). With the exception only of \( X_3 \) in regression 1 (highly insignificant in any case) all the variables in these equations are correlated in the expected direction and the fractions of explained variance adjusted for degrees of freedom, \( \bar{R}^2 \), range between 52 and 62%, around the original general model's score of 55%. Examining the levels of significance for each variable, the transformation for \( X_3 \) (the U-shaped relationship \( Y = a + bX_3 + c (X_3)^2 \) is insignificant in each equation. All but two of the other variables are, however, significant at the 95% level of confidence or higher with \( X_2 \) in regression 1 being significant at the 87% level and \( X_1 \) in regression 3 being significant at the 90% level of confidence. The insignificance of \( X_3 \) and \((X_3)^2\) was not surprising in view of the problem of intercorrelation with \( X_1 \) especially. Dependence on exports \((X_3)\) is related theoretically to GNP per capita. The limited variation in National Income statistics for the 29 tropical African countries was particularly acute and the pattern of the \( t \)-statistics rising as the dataset expanded (regressions 1 through to 3) was consistent with the expectation that the levels of significance for \( X_3 \) and \((X_3)^2\) would coincide with those found in the original model as the dataset expanded further (O’Kane, 1983). In general, the effect of intercorrelation would be to reduce the significance of each variable. Correlations with \( X_1 \) are for \( X_3 \) and \((X_3)^2\) respectively, \( r = .711 \) and .715 (29 cases): .665 and .651 (36 cases); and \( r = .593 \) and .565 (42 cases). 25

7. Pointers and Predictions
The results then support the view that the proposed explanation for coups fits purely African coups. Examination of the residuals, the actual \((Z)\) versus the fitted scores \((\hat{Z})\), enables further comparison of possible similarities and dissimilarities between the cases. Divided between coup and
Table II. Regression 1 – Actual Versus Fitted Scores for Tropical Black African Countries

<table>
<thead>
<tr>
<th>Rank Order of Likelihood of Having a Coup</th>
<th>Country</th>
<th>Actual Scores</th>
<th>Fitted Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Countries which have had a coup</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Uganda</td>
<td>0.31</td>
<td>0.62</td>
</tr>
<tr>
<td>2</td>
<td>Burkina</td>
<td>0.31</td>
<td>0.47</td>
</tr>
<tr>
<td>3</td>
<td>Burundi</td>
<td>0.31</td>
<td>0.47</td>
</tr>
<tr>
<td>4</td>
<td>Mauritania</td>
<td>0.31</td>
<td>0.31</td>
</tr>
<tr>
<td>5</td>
<td>Nigeria</td>
<td>0.31</td>
<td>0.31</td>
</tr>
<tr>
<td>6</td>
<td>Togo</td>
<td>0.31</td>
<td>0.29</td>
</tr>
<tr>
<td>7</td>
<td>CAR</td>
<td>0.31</td>
<td>0.28</td>
</tr>
<tr>
<td>8</td>
<td>Guinea</td>
<td>0.31</td>
<td>0.27</td>
</tr>
<tr>
<td>9</td>
<td>Ghana</td>
<td>0.31</td>
<td>0.26</td>
</tr>
<tr>
<td>10</td>
<td>Benin</td>
<td>0.31</td>
<td>0.21</td>
</tr>
<tr>
<td>11</td>
<td>Mali</td>
<td>0.31</td>
<td>0.20</td>
</tr>
<tr>
<td>12</td>
<td>Congo</td>
<td>0.31</td>
<td>0.19</td>
</tr>
<tr>
<td>13</td>
<td>Liberia</td>
<td>0.31</td>
<td>0.18</td>
</tr>
<tr>
<td>14</td>
<td>Rwanda</td>
<td>0.31</td>
<td>0.15</td>
</tr>
<tr>
<td>15</td>
<td>Sierra Leone</td>
<td>0.31</td>
<td>0.14</td>
</tr>
<tr>
<td>16</td>
<td>Zaire</td>
<td>0.31</td>
<td>0.10</td>
</tr>
<tr>
<td>17</td>
<td>Somalia</td>
<td>0.31</td>
<td>0.07</td>
</tr>
<tr>
<td>18</td>
<td>Sudan</td>
<td>0.31</td>
<td>0.04</td>
</tr>
<tr>
<td>6</td>
<td>Togo</td>
<td>0.31</td>
<td>0.29</td>
</tr>
<tr>
<td>7</td>
<td>CAR</td>
<td>0.31</td>
<td>0.28</td>
</tr>
<tr>
<td>8</td>
<td>Guinea</td>
<td>0.31</td>
<td>0.27</td>
</tr>
<tr>
<td>9</td>
<td>Ghana</td>
<td>0.31</td>
<td>0.26</td>
</tr>
<tr>
<td>10</td>
<td>Benin</td>
<td>0.31</td>
<td>0.21</td>
</tr>
<tr>
<td>11</td>
<td>Mali</td>
<td>0.31</td>
<td>0.20</td>
</tr>
<tr>
<td>12</td>
<td>Congo</td>
<td>0.31</td>
<td>0.19</td>
</tr>
<tr>
<td>13</td>
<td>Liberia</td>
<td>0.31</td>
<td>0.18</td>
</tr>
<tr>
<td>14</td>
<td>Rwanda</td>
<td>0.31</td>
<td>0.15</td>
</tr>
<tr>
<td>15</td>
<td>Sierra Leone</td>
<td>0.31</td>
<td>0.14</td>
</tr>
<tr>
<td>16</td>
<td>Zaire</td>
<td>0.31</td>
<td>0.10</td>
</tr>
<tr>
<td>17</td>
<td>Somalia</td>
<td>0.31</td>
<td>0.07</td>
</tr>
<tr>
<td>18</td>
<td>Sudan</td>
<td>0.31</td>
<td>0.04</td>
</tr>
<tr>
<td>19</td>
<td>Chad</td>
<td>0.31</td>
<td>−0.15</td>
</tr>
<tr>
<td>20</td>
<td>Niger</td>
<td>0.31</td>
<td>−0.27</td>
</tr>
<tr>
<td>B. Mis-classifications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Tanzania</td>
<td>−0.69</td>
<td>−0.18</td>
</tr>
<tr>
<td>22</td>
<td>Kenya</td>
<td>−0.69</td>
<td>−0.19</td>
</tr>
<tr>
<td>23</td>
<td>Zambia</td>
<td>−0.69</td>
<td>−0.21</td>
</tr>
<tr>
<td>24</td>
<td>Gambia</td>
<td>−0.69</td>
<td>−0.22</td>
</tr>
<tr>
<td>25</td>
<td>Gabon</td>
<td>−0.69</td>
<td>−0.46</td>
</tr>
<tr>
<td>26</td>
<td>Cameroon</td>
<td>−0.69</td>
<td>−0.60</td>
</tr>
<tr>
<td>27</td>
<td>Senegal</td>
<td>−0.69</td>
<td>−0.73</td>
</tr>
<tr>
<td>28</td>
<td>Ivory Coast</td>
<td>−0.69</td>
<td>−0.73</td>
</tr>
</tbody>
</table>

COUNT $R^2 = 93\%$.

non-coup countries and listed in order of magnitude, the results are presented in Tables II–IV.

Cursory inspection of the three tables clearly shows that all three regressions discriminate well between coup and non-coup countries. This is confirmed by calculating Count $R^2$, which is the number of correct predictions divided by the total number of observations (Maddala, 1988, p. 279). These scores of between 81 and 94% demonstrate all three models to be impressive discriminators.

Concentrating first on the mis-classifications it is to be noted that no non-coup country is predicted to have a successful coup d’état. Of the maximum eight misclassified coup countries, three are from the six countries added for the continent of Africa (regression 3): Algeria, Egypt and Libya. This explains the lower fraction of explained variance, $R^2$, in regression 3 compared with regressions 1 and 2. Egypt has not had a coup since 1952 and the economic data for 1983 do not accurately represent conditions in Egypt before 1952. Egypt is not predicted to have a further coup. Algeria has not had a coup since 1965 and Libya since 1969. Niger is present as a ‘mis-classification’ in all three discriminant models and Chad and Madagascar each in two out of the three. A coup last occurred in Niger in 1974 and in both Chad and Madagascar in 1975. Whilst for Niger and Chad these low scores reflect, in part, the presence of troops at the time of their first
Coups d'État in Africa

Coups, for Madagascar these findings suggest that on the basis of the country's present export economy it is unlikely to have a future coup, though it must not be forgotten that having had a coup, the chances of having a further coup are increased.

In addition to mis-classifications, it is also interesting to look at the full list of countries, considering in particular the implications of the two obstacle variables.

Looking first at the countries which have had at least one coup, not surprisingly, in view of the additive nature of the model, countries which have had a previous coup are featured more heavily in the top halves of the A lists than the bottom halves, with many having fitted scores, $Z$, above the actual scores, $Z$. The top three countries listed for each of the regressions have all had a coup since 1985: Uganda in 1986 and Burkina and Burundi in 1987. Less impressi-

<table>
<thead>
<tr>
<th>Rank Order of Likelihood of Having a Coup</th>
<th>Country</th>
<th>Actual Scores $Z$</th>
<th>Fitted Scores $Z$</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Countries which have had a coup</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Uganda</td>
<td>0.36</td>
<td>0.71</td>
</tr>
<tr>
<td>2</td>
<td>Burkina</td>
<td>0.36</td>
<td>0.62</td>
</tr>
<tr>
<td>3</td>
<td>Burundi</td>
<td>0.36</td>
<td>0.57</td>
</tr>
<tr>
<td>4</td>
<td>Ethiopia</td>
<td>0.36</td>
<td>0.42</td>
</tr>
<tr>
<td>5</td>
<td>CAR</td>
<td>0.36</td>
<td>0.35</td>
</tr>
<tr>
<td>6</td>
<td>Togo</td>
<td>0.36</td>
<td>0.33</td>
</tr>
<tr>
<td>7</td>
<td>Benin</td>
<td>0.36</td>
<td>0.31</td>
</tr>
<tr>
<td>8</td>
<td>Ghana</td>
<td>0.36</td>
<td>0.31</td>
</tr>
<tr>
<td>9</td>
<td>Mali</td>
<td>0.36</td>
<td>0.31</td>
</tr>
<tr>
<td>10</td>
<td>Mauritania</td>
<td>0.36</td>
<td>0.30</td>
</tr>
<tr>
<td>11</td>
<td>Congo</td>
<td>0.36</td>
<td>0.29</td>
</tr>
<tr>
<td>12</td>
<td>Nigeria</td>
<td>0.36</td>
<td>0.29</td>
</tr>
<tr>
<td>13</td>
<td>Guinea</td>
<td>0.36</td>
<td>0.28</td>
</tr>
<tr>
<td>14</td>
<td>Rwanda</td>
<td>0.36</td>
<td>0.23</td>
</tr>
<tr>
<td>15</td>
<td>Liberia</td>
<td>0.36</td>
<td>0.18</td>
</tr>
<tr>
<td>16</td>
<td>Zaire</td>
<td>0.36</td>
<td>0.14</td>
</tr>
<tr>
<td>17</td>
<td>Sierra Leone</td>
<td>0.36</td>
<td>0.10</td>
</tr>
<tr>
<td>18</td>
<td>Sudan</td>
<td>0.36</td>
<td>0.10</td>
</tr>
<tr>
<td>19</td>
<td>Somalia</td>
<td>0.36</td>
<td>0.09</td>
</tr>
<tr>
<td>20</td>
<td>Guinea Bissau</td>
<td>0.36</td>
<td>0.08</td>
</tr>
<tr>
<td>21</td>
<td>Chad</td>
<td>0.36</td>
<td>0.01</td>
</tr>
<tr>
<td>B. Mis-classifications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Madagascar</td>
<td>0.36</td>
<td>−0.08</td>
</tr>
<tr>
<td>27</td>
<td>Niger</td>
<td>0.36</td>
<td>−0.22</td>
</tr>
<tr>
<td>C. Countries which have not had a coup</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Malawi</td>
<td>−0.64</td>
<td>−0.10</td>
</tr>
<tr>
<td>24</td>
<td>Tanzania</td>
<td>−0.64</td>
<td>−0.13</td>
</tr>
<tr>
<td>25</td>
<td>Kenya</td>
<td>−0.64</td>
<td>−0.19</td>
</tr>
<tr>
<td>26</td>
<td>Zambia</td>
<td>−0.64</td>
<td>−0.20</td>
</tr>
<tr>
<td>28</td>
<td>Mozambique</td>
<td>−0.64</td>
<td>−0.31</td>
</tr>
<tr>
<td>29</td>
<td>Mauritius</td>
<td>−0.64</td>
<td>−0.31</td>
</tr>
<tr>
<td>30</td>
<td>Gambia</td>
<td>−0.64</td>
<td>−0.41</td>
</tr>
<tr>
<td>31</td>
<td>Angola</td>
<td>−0.64</td>
<td>−0.53</td>
</tr>
<tr>
<td>32</td>
<td>Zimbabwe</td>
<td>−0.64</td>
<td>−0.57</td>
</tr>
<tr>
<td>33</td>
<td>Gabon</td>
<td>−0.64</td>
<td>−0.61</td>
</tr>
<tr>
<td>34</td>
<td>Senegal</td>
<td>−0.64</td>
<td>−0.70</td>
</tr>
<tr>
<td>35</td>
<td>Cameroon</td>
<td>−0.64</td>
<td>−0.73</td>
</tr>
<tr>
<td>36</td>
<td>Ivory Coast</td>
<td>−0.64</td>
<td>−0.89</td>
</tr>
</tbody>
</table>

COUNT $R^2 = 94\%$. 
Table IV. Regression 3 – Actual Versus Fitted Scores for Countries of African Continent

<table>
<thead>
<tr>
<th>Rank Order of Likelihood of Having a Coup</th>
<th>Country</th>
<th>Actual Scores Z</th>
<th>Fitted Scores Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Countries which have had a coup</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Uganda</td>
<td>0.36</td>
<td>0.72</td>
</tr>
<tr>
<td>2</td>
<td>Burundi</td>
<td>0.36</td>
<td>0.62</td>
</tr>
<tr>
<td>3</td>
<td>Burkina</td>
<td>0.36</td>
<td>0.53</td>
</tr>
<tr>
<td>4</td>
<td>Nigeria</td>
<td>0.36</td>
<td>0.49</td>
</tr>
<tr>
<td>5</td>
<td>Rwanda</td>
<td>0.36</td>
<td>0.39</td>
</tr>
<tr>
<td>6</td>
<td>Congo</td>
<td>0.36</td>
<td>0.37</td>
</tr>
<tr>
<td>7</td>
<td>Guinea</td>
<td>0.36</td>
<td>0.34</td>
</tr>
<tr>
<td>8</td>
<td>Ethiopia</td>
<td>0.36</td>
<td>0.33</td>
</tr>
<tr>
<td>9</td>
<td>Ghana</td>
<td>0.36</td>
<td>0.33</td>
</tr>
<tr>
<td>10</td>
<td>Benin</td>
<td>0.36</td>
<td>0.31</td>
</tr>
<tr>
<td>11</td>
<td>Mauritania</td>
<td>0.36</td>
<td>0.30</td>
</tr>
<tr>
<td>12</td>
<td>CAR</td>
<td>0.36</td>
<td>0.28</td>
</tr>
<tr>
<td>13</td>
<td>Mali</td>
<td>0.36</td>
<td>0.25</td>
</tr>
<tr>
<td>14</td>
<td>Somalia</td>
<td>0.36</td>
<td>0.25</td>
</tr>
<tr>
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<td>Togo</td>
<td>0.36</td>
<td>0.23</td>
</tr>
<tr>
<td>16</td>
<td>Guinea Bissau</td>
<td>0.36</td>
<td>0.20</td>
</tr>
<tr>
<td>17</td>
<td>Sudan</td>
<td>0.36</td>
<td>0.12</td>
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<tr>
<td>18</td>
<td>Liberia</td>
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<td>0.08</td>
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<td>B. Mis-classifications</td>
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</tr>
<tr>
<td>19</td>
<td>Sierra Leone</td>
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<td>Libya</td>
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<td>24</td>
<td>Egypt</td>
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<td>26</td>
<td>Chad</td>
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<td>-0.25</td>
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<tr>
<td>30</td>
<td>Niger</td>
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<td>-0.27</td>
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<td>C. Countries which have not had a coup</td>
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<tr>
<td>23</td>
<td>Mauritius</td>
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<td>-0.08</td>
</tr>
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<td>Zambia</td>
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<td>Malawi</td>
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<td>-0.27</td>
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<td>Mozambique</td>
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</tr>
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<td>Tunisia</td>
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<td>Zimbabwe</td>
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<tr>
<td>42</td>
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<td>-0.76</td>
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<tr>
<td></td>
<td>Ivory Coast</td>
<td>-0.64</td>
<td>-0.90</td>
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</table>

\[ \text{COUNT } R^2 = 81\% . \]

velocity though, Sudan, which had a coup in 1989 is featured low in each list, as too is Sierra Leone, which had a coup in May 1992.

Turning next to the single coup countries, these are, in declining order: in regression 1 (Table II) – Guinea, Mali, Congo, Liberia, Rwanda, Zaire, Somalia; in regression 2 (Table III) – Ethiopia, Congo, Mali, Guinea, Rwanda, Liberia, Zaire, Somalia, Guinea Bissau; in regression 3 (Table IV) – Rwanda, Congo, Guinea, Ethiopia, Mali,
Somalia, Guinea Bissau, Liberia. Of these, both Mali and Somalia had coups in 1991. In Liberia, Doe was finally overthrown in 1990 in a civil war. Furthermore, absence of a successful coup in Congo since 1968 can be explained by the earlier mentioned installation after the coup of 750 Cuban troops.26 Similarly, Cuban troops in Ethiopia from 1977 to 1989 may also have acted as an obstacle to coups. Certainly Mengistu’s departure, in May 1991, is consistent with this view.

Turning then to the C lists, those countries which have not had a coup d’etat, Senegal and Ivory Coast stand out for being consistently ranked the countries with the lowest expectation of having a coup. Each has the obstacle of a foreign army present ($X_6 = 1$) and the very low fitted scores, $\hat{Z}$, of below the actual scores, $Z$, in each equation suggest that these countries would not be expected to have a coup d’etat whether with or without their French military-political heritage. Of the remaining countries categorized as $X_6 = 1$ it is Malawi and Zambia where this military-political heritage counts for most, and their economies have potentially the greatest vulnerability to coups d’etat.

Crucially, listed amongst the non-coup countries, lacking the foreign troops obstacle yet nonetheless predicted not to have coups d’etat, ranked from lowest to highest likelihood of a coup in regression 3, are: Morocco, Zimbabwe, South Africa, Tunisia, Mozambique, Kenya and Tanzania. Whether relatively rich or poor in African terms, the model is capable of discriminating between coup and non-coup countries. On consideration of the evidence of the residuals, that is the individual scores produced by the model for each country, it is clear that the general theory of coups originally designed to apply to all countries not only fits Africa, as it ought, but is also capable of discriminating finely between African countries. Importantly, these tables also show that a large proportion of African countries are not predicted to have coups d’état, a finding consistent with recent examples, such as Tanzania, where peaceful change has been achieved.

8. Conclusion

An understanding of the likelihood of coups in Africa, as for coups elsewhere, can then be gained through consideration of each country’s export economies, their specialization in and dependence on primary goods for export and the existence of the added problems produced by poverty. With the additional consideration of obstacles to coups, a foreign troops heritage and the absence of a previous coup in particular, a predictive model for coups d’état in Africa has been achieved.

It has, furthermore, been shown to differ in important ways from previous models. Most importantly it is a general model, which has stood the test of time and has demonstrated its consistency for African data. It has also achieved high levels of significance without violating conceptual logic. In seeking explanation for the conditions under which successful coups occur it has also drawn attention away from narrower, potentially circular, explanations for coups. The adoption of a political economy approach to coups also has one further advantage. The explanation for coups offered here has important policy implications.

It is clear that for those countries which have had coups d’état and which are to be found in list A, the means to overcome both political and economic crises do not lie within their governments’ control. This would be equally true whether the country happened to be formally under civilian or military rule. These governments, these ‘bad governments’, cannot be blamed for economic crisis, for the direction of causation essentially goes in the opposite direction; it is economic instability which gives rise to outwardly incompetent governments. As these conditions are bound up with the nature of the international market, it follows that only international policies can have any deep and lasting effects. Policies such as those contained within the Brandt Report (1980), perhaps, which advocate the stabilization of primary commodities at ‘remunerative levels’, the encouragement of the processing and manufacture of goods within Third World countries and the
removal of tariff and other barriers to Third World manufactured goods.

For those countries which have not had coups (list C), however, possibilities for internal political control are present and it follows from the proposed preconditions of coups (list C), however, possibilities for internal political control are present and it follows from the proposed preconditions of coups that diversification of exports should be maintained and further encouraged. In their efforts to continue along the path of export-led growth, it follows that these countries would also benefit from international policies designed to achieve greater control over terms of trade and to reduce restrictions on their exports. Consideration of the ‘obstacles’ also suggests that a close military relationship with a foreign power could be a means to prevent a coup d'état, though it is doubtful that this is other than an exceptional option.27

In sum, coups d'état should not be seen as narrow political events; they are the drastic responses to an unstable and sometimes hopeless economic situation.

NOTES
1. For statistical approaches see Jackman (1978), Johnson et al. (1984), Wells (1974). For a less scientific approach see, for example, Decalo (1976) and for the ‘new nations of Africa and Asia’ see the classic statement by Pyc (1962).
2. See O’Kane (1993). As the method employed by Lunde (1991) includes unsuccessful coups and compares for differences of degree the same problems of conceptual logic apply.
3. Jackman’s operationalization of social mobilization is additionally problematic for Deutsch, who insisted that it was the rate of change in indicators of social mobilization which was crucial rather than the indicator scores at a particular point of time.
4. Zolberg’s (1968, pp. 78–80) particular suggestions are time – recently independent countries being less likely to have coups – and contagion.
5. The problem here in including attempted coups and plots is that they may be of a different genus and the capability of having a coup can only be decided through theory (see O’Kane, 1993; Sartori, 1970).
6. For clear expositions of the economic theories which lie behind these arguments and the explanation which is to follow, see in particular Helleiner (1972) and MacBean (1966).
7. Using the UNCTAD Handbook of International Trade and Development Statistics (United Nations, New York) for 1986 and 1989 respectively (Table 4.3 in each case), Bangladesh stands out for exporting 83% and 89% of world exports in jute in 1982–83 and 1985–86 respectively. Cuba, the next highest exporter in world terms, exported 40% and 49% of sugar, Morocco exported 32% and 34% of crude fertilizers and Niger exported 29% and 28% of uranium ore. Few other countries exported more than 10% of the world share of any primary product of which only the cocoa exporters, Ivory Coast (18% and 21%) and Ghana (10%) were from Africa. As its second major export Madagascar contributed 11% of the world exports of spices between 1982 and 1985 down to 6% in 1985–86. For most African countries their major export contributed less than 1% to world exports. This compares with the United States which in 1982–83 contributed 72% of oil seeds, 41% of wheat and 66% of maize to world exports.
8. See UN World Economic Surveys (Table 6). Also, for discussion of problems faced by such agreements, see Helleiner (1972), MacBean (1966), ch. 12.
9. Ghana and Nigeria serve as useful African examples. The 1966 coup in Nigeria was preceded by price fluctuations in the major exports. The production of each export commodity was concentrated in a different area, and the increasingly valuable revenues from oil, located mainly in the Eastern regions, were used to benefit the North, from which the government largely came (see First, 1970). In Ghana before the 1966 coup, Nkrumah’s Convention People’s Party, having founded the Cocoa Purchasing Company to assist poorer farmers, effectively put itself in direct competition with important cocoa farmers and local cocoa brokers. It was in the Ashanti area, the main cocoa producing area, that the National Liberation Movement was formed to stage the coup (see First, 1970, p. 178).

It is important to emphasize here that consideration of the size of the largest ethnic group alone (see discussion of Jackman (1978) above) without consideration of the relationship between the political elite and that group, lacks conviction as part of an explanation for government overthrow as opposed to an explanation for social disorder (see Zuckerman, 1975; Morris, 1972). In general, in any case, cleavage analysis cannot concentrate only on issues of fragmentation. Consideration must also be given to intensity and whether or not cleavages are cross-cut by other cleavages or are reinforced by them (see Rae & Taylor, 1970). It would be impossible to construct, in a meaningful way, a general variable to represent the relationship between government and ethnic groups in every country. As the discussion here suggests, however, the particular form a coup takes is likely to be affected by such factors as region, ethnicity and religion and they could also act as specific obstacles to coups too.

10. Clapham (1985, p. 67) points out that only five post-colonial Third World countries had ever peacefully elected an opposition party to office.
11. Illegality and the element of force are crucial characteristics of coups. Within the literature concentrated on the coup d'état there exists close
agreement on the nature of a successful coup. It is generally accepted that a coup d'état is an illegal change of government speedily effected by a group based within the machinery of state through the threat or actual use of violence, conspiracy (in order to avoid pre-emptive discovery) being of its essence (see First, 1970, pp. 18–19; Jackman, 1978, p. 1264; O’Kane, 1987, ch. 2; Rapoport, 1966).

By virtue of the similarities between the institutions of all governments, the techniques employed would usually include similar features: the occupation of the telecommunications centre (announcement of the coup through the media being the public climax); the capture of other key points such as the presidential palace and the police and military headquarters; and the arrest of the most powerful state personnel, including of course the head of state himself (see Luttwak, 1969). In essence, coups are very distinct strategies employed to overthrow governments. They are not the same as any violent or sudden government change or military intervention in politics. In practice, however, they can vary widely, from the quiet bloodless coup where only the threat of violence is made, to the very violent coup where the key centres have to be fought for and defended at every point. For a compilation of successful coups and coup details, see O’Kane (1987) Appendices A and B.

12. The idea that this might be an obstacle was stimulated partly by First (1970, pp. 413–423) where she discusses the role played by foreign armies in Africa (especially the French army and their intervention in Gabon in 1964) and partly by Luttwak’s (1969, p. 44) argument that the presence of a foreign army indicated that the host country was not truly independent.

For consideration of further possible obstacles and their rejection as general obstacles see O’Kane (1987, ch. 5). The possible obstacles considered are CIA presence, war, domination by a multinational company, dependence on South Africa, elections, and coup contagion across borders. For statistical examination of such obstacles and problems of operationalization, see O’Kane (1978, 1983).

13. For an explanation of discriminant analysis see Maddala (1988, pp. 270–271). The technique essentially consists of the procedure for multiple regression analysis employing a dummy dependent variable. It differs from it in that the dependent variable, $Y$, rather than being 0 or 1 is either negative or positive, the calculation of the dependent variable scores being determined by the size of the two populations of coup ($n_1$) and non-coup ($n_2$) countries:

$$Z_{i*} = Y_i - \frac{n_1}{n_1 + n_2}$$

In the original model the dependent variable was:

$$Z = Y - \frac{44}{125}$$

44 being the number of countries which had had at least one coup between 1950 and 1970 and 125 being the number of independent countries in the dataset. $Y$ was 1 where a coup had occurred between 1950 and 1970 and 0 where no coup had occurred during that time (see O’Kane, 1981, pp. 300–301).

14. Statistical tests confirmed that this model applied to all countries (developed and developing ones being among the 125 cases) and to developing ones alone (see O’Kane, 1981, p. 307). For data sources and a full discussion of this model, the statistical tests and transformations, see O’Kane (1981, pp. 296–308).

The model took the form of the following equation.

$$Z = 0.141 - 0.0909X_1 + 0.179X_2 - 0.0160X_3 (2.69)* + 0.000157 (X_3)^2 + 0.566X_4 - 0.325X_5 - 0.266X_6 (2.06)^* + 0.352 (had not)$$

$$N = 125$$

$$R^2 = 0.549$$

d of $f = 117$

$\left(\right) = t$ statistic

$* = t$ statistic significant at the 95% level of confidence.

Where: $Y = 1 = \text{had a coup 1950–70}$

$0 = \text{had not}$

$$Z = Y - \frac{44}{125} = +0.648 \text{ (had a coup 1950–70)}$$

$$-0.352 \text{ (had not)}$$

$$X_1 = \log \text{(Gross National Product per capita in 1968 in USD)}$$

$$X_2 = \log \text{(value of principal export as a percentage of total exports for 1968 in USD)}$$

$$X_3 = \text{Value of total earnings of major export as a percentage of National Income for 1968}$$

$$X_4 = \text{Dummy 1 = has had at least one coup before, during the years 1950–70}$$

$$0 = \text{has not had a previous coup during that period}$$

$$X_5 = \text{Dummy 1 = has become independent within the previous 5 years}$$

$$0 = \text{has not}$$

$$X_6 = \text{Dummy 1 = foreign troops, capable of combat, present in country in 1970}$$

$$0 = \text{not so}$$

Variables $X_4$–$X_6$ represented operationalizations for the three obstacles, $X_1$ the country’s level of poverty, $X_2$ the level of export specialization, $X_3$ dependence on exports. For explanation of transformations used, see discussion for the model for Africa below.

15. For comparison, it was essential to use the same model as that employed in the original model. Also not violating conceptual logic, the dichotomous dependent variable techniques, logit and probit analysis, could have been employed. For explanation of these techniques see Maddala (1988, pp. 272–283). Employment of these techniques in pre-
liminary investigation for future research indicated highly similar findings.

16. For the list of countries in each dataset see Tables 2–4. Following Jackman (1978) and Zolberg (1968), Ethiopia is excluded from the Tropical African dataset. If included the $R^2$ is increased to 0.577, the coefficients and levels of significance remaining similar. Following practice, in order to avoid the errors and biases which such countries bring for all datasets, small countries (of less than 0.5 million) are excluded: Cape Verde, Comoros, Djibouti, Equatorial Guinea, Seychelles and Sao Tome and Principe. Data on exports for Botswana, Lesotho and Swaziland were available neither in UNCTAD, *Handbook of International Trade and Development Statistics*, Supplement, 1986, nor in earlier or later editions. This reflected their economic union with South Africa; these three countries were therefore dropped from each of the datasets.

17. **UNCTAD Handbook of International Trade and Development**, Supplement, 1986. $X_1$ was obtained from Table 6.1; $X_2$, the ‘concentration index’, from Table 4.5; and $X_3$ was calculated from Tables 4.3D (total value) and 6.1 (National Income).

18. The use of cross-section data can be criticized for representing the conditions which existed after a coup when the hypothesis relates to preconditions. In practice, however, the majority of these countries have not changed their scores much and the effect on unreliability in their measurement is generally to reduce the obtained correlation coefficients slightly (see Ferguson, 1966, p. 289).


20. Benin offers an interesting example of a modernizing military government (see O’Kane, 1987, pp. 77–78; 129–130).

21. If included (Madagascar: $X_0 = 1$), the fraction of explained variance, $R^2$, decreased. For the 42 case dataset $R^2 = 54\% \quad (R^2 = 46\%, \text{ Count } R^2 \text{ remained the same at } 81\%) \text{ and for the 36 case dataset } R^2 = 64\% \quad (R^2 = 57\%, \text{ Count } R^2 = 94\%)$. Madagascar was not included within the 29 case dataset.

22. If included (Mauritius: $X_0 = 1$), the fraction of explained variance, $R^2$, increased. For the 42 case dataset $R^2 = 63\% \quad (R^2 = 57\%, \text{ Count } R^2 = 83\%) \text{ and for the 36 case dataset } R^2 = 70\% \quad (R^2 = 64\%, \text{ Count } R^2 = 94\%)$. Mauritius was not part of the 29 case dataset.

23. For explanation of $R^2$, see Blalock (1960, p. 274) and Johnston (1963, p. 224). For explanation of $R^2$, see Huang (1970, pp. 80–81).

24. For an explanation of Student’s $t$ distribution, see Blalock (1960, pp. 144–149). For an explanation of the computation of degrees of freedom, their relevance to the $t$ statistic and statistical table for the distribution of $t$, see Blalock (1960, pp. 156, 247, 442). For support for the use of tests of significance where data are being used for a universe of cases rather than the random sample for which they were designed, see Blalock (1960, p. 270) and Gold (1969).

25. For a detailed discussion of multicollinearity, see Maddala (1988, ch. 7). The highest correlation between $X_2$ and either $X_3$ or $(X_3)^2$ was $r = .594$ for $X_3$ in regression 3. $X_1$ and $X_2$ have low correlations with each other at $r = .150$, .129 and .140 (regressions 1 through to 3). When the three regressions were run without $X_3$ and $(X_3)^2$, all the variables were significant at the 95% level of confidence.

26. The Congo was not coded as 1 for variable $X_4$ = having had a previous coup (see Appendix). This deviance from the model means that had variable $X_4$ been classified as 1 then not only would Congo no longer be deviant but the fraction of explained variance, $R^2$, would have been increased.

27. For a full discussion of this point and the potential for national economic policies, see O’Kane (1987, ch. 7). With less potential for internal control over their economies, the countries in list B face a particularly difficult task if international assistance is ruled out and having had a coup now face an increased chance of having another. The only clear exception to this is Libya, where oil revenues, through abundance of production and favourable terms of trade (together with the advantages of a small population and revolution following the 1969 coup), have enabled a rapid improvement in GNP per capita. Libya’s high concentration in exports remains a weakness, however, if the terms of trade change or production sources become depleted.

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Coups d’État in Africa 269


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**APPENDIX: The Classification of Coups d'État**

Data for the dependent variable $X_d$ were obtained from *Keesing's Contemporary Archives 1950–90* (for years of previous coups see O’Kane, 1987, Appendix A). These recordings do not fully agree with the classification of coups found in McGowan & Johnson (1984) and their further note (1986). As both the dependent variable and $X_d$ were dummy variables the problem of disagreement over what should count as a coup d'état presents no differences for the dependent variable but some for $X_d$, the previous coup variable. The cases viewed as incorrectly classified by McGowan & Johnson were the following: Zaire (1960), Congo (1963) and Madagascar (1972). Their classification of Congo, 1968, as two coups is also contested. For a further discussion of disagreed successful coup classifications and the dangers of including unsuccessful coups and plots in coup analyses see O’Kane (1993). It follows that, by employing a dummy dependent variable, discriminant analysis has the advantage of reducing the effects of error from mis-classification.

These cases are challenged for the following reasons. In Zaire, 1960, Mobutu’s intervention had the backing of the President and occurred during the Congo crisis at a point where there were two competing governments, Iléo’s and Lumumba’s (Keesing’s, 1961, pp. 17938–47). McGowan & Johnson (1984, p. 661) record inaccurately that Mobutu removed Prime Minister Lumumba from office when President Kasabuvi had done this earlier and the Security Council meeting in New York at the time found that the President had acted within the constitution (Keesing’s, 1961, p. 17938).

Events in Congo (Brazzaville), 1963, and Madagascar, 1972, were both surrounded by political disturbances. In Congo, President Youlou resigned, a resignation which followed discussion with trade union leaders after a general strike had brought the country to crisis point and President de Gaulle had refused to send French troops, which offered Youlou the only hope of gaining control of the situation (Keesing’s, 1963, pp. 19659–60; see also First, 1970, p. 18). In Madagascar, 1972, there were riots and anti-government demonstrations in the face of which President Tsiranana made concessions, dissolved the government and handed power to the Army Chief of Staff, General Ramanantsoa. In spite of demonstrations demanding Tsiranana’s resignation, Ramanantsoa persuaded the 100,000 demonstrators that the President should not be asked to resign until after a referendum (Keesing’s, 1972, pp. 25285–6). McGowan & Johnson (1984, p. 664) wrongly claim that the military forced Tsiranana to resign.

McGowan & Johnson (1984, p. 663) also list Congo as having had two coups in 1968, one in August, the other in September. President Massamba-Debat was ousted by a coup on 3 August but the next day he was asked to return because no more popular leader could be produced. Massamba-Debat was persuaded to form a military-civilian government and a military council was set up to control the state. Shortly afterwards the president’s powers were further reduced and on 4 September Captain Ngoubai announced Massamba-Debat’s resignation (Keesing’s, 1968, pp. 23016–17). If unusually drawn out this was surely one coup and not two coups (for further examples and discussion of drawn-out coups see O’Kane, 1987, pp. 31–33). In any case the events in August did not last the ‘displacement’ of ‘at least one week’ required by McGowan & Johnson (1984, p. 635).
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