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Arms Transfers and Coups d'État: A Study on Sub-Saharan Africa*

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Early studies of African coups have largely focused on domestic determinants such as social mobilization, economic conditions, and the characteristics of the military itself. Scant attention has been paid to the political effects of arms transfers on military intervention in Africa. Considering that defense spending may meet the demands of the armed forces, absorb vital social and economic resources needed for development, retard the growth of the civilian domestic product, or strengthen the political position of the military, it is likely that expenditures on arms imports may directly or indirectly affect the likelihood of coups in sub-Saharan African countries. Utilizing theories of arms transfers and coups d'état, a causal model was constructed and data were collected for 35 African nations. An event-count analysis in conjunction with conventional regression techniques was employed for statistical estimation. The findings suggest that arms transfers serve to meet the military's corporate interests and have a long-term direct effect on reducing the likelihood of coups in Africa. However, arms transfers contribute to African regime instability indirectly by enhancing the military's position vis-a-vis civilian institutions in society. Former French colonies have experienced significantly fewer coups than the rest of Africa, but throughout sub-Saharan Africa, countries that experienced an economic downturn or a coup are more likely to have military intervention in politics.

Coup events refer to successful coups, failed coups, or plotted coups.

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of intense interest to scholars in the discipline. Early studies of African coups have largely focused on domestic determinants such as social mobilization, economic conditions, and the characteristics of the military itself (e.g. Bienen, 1974; Jackman, 1978; Needler, 1978; Nordlinger, 1977). It was only recently that empirical research started to recognize the profound influences on coups of African states' complicated relations with the outside world (e.g. Jenkins & Kposowa, 1990, 1992; Johnson et al., 1984; O'Kane, 1981, 1993). The question of the political effects of arms transfers on military intervention in Africa, however, has received only scant attention (Luckham, 1985; Maniruzzaman, 1992). The omission of international arms shipments is all the more surprising because it is one sector whose effects are easy to identify empirically.

Considering that defense spending may meet the demands of the armed forces, absorb vital social and economic resources needed for development, retard the growth of the civilian domestic product (Chan, 1985; Deger & Smith, 1983), or strengthen the political position of the military (Luckham, 1994; Maniruzzaman, 1992; Wolpin, 1983), it is likely that expenditures on arms imports may directly or indirectly affect the likelihood of coups in sub-Saharan African countries. Building upon previous work, this study will construct a causal model that integrates theories of arms transfers and coups to evaluate the political consequences of international arms shipments. The specific research questions to be examined in this study include: (1) do arms transfers have significant effects on the occurrence of coups d'état in sub-Saharan Africa? and if so (2) what is the nature of these effects? An event-count analysis in conjunction with conventional regression techniques will be employed for statistical estimation of the effects of arms transfers on African coups.

Arms Transfers and Military Intervention in Politics

Arms Transfers as a Corporate Interest and Coups d'État
In exploring the causes of military intervention, Nordlinger has pointed out that '[t]he defense or enhancement of the military's corporate interests is easily the most important interventionist motive' (Nordlinger, 1977: 65). This line of reasoning, shared by many other scholars (Bienen, 1974; Welch, 1972; Zimmermann, 1979), treats the coup d'état as a defense of the military's corporate interests. The procurement of advanced weaponry is usually deemed important by the armed forces, both for its practical utility in possible combat and for purposes of prestige. A cutback in weaponry acquisition or in the general budget would be a threat to the corporate interests of the military and thus would increase the likelihood of a coup d'état.

Using arms transfers as a means of satisfying military's demand for weapons has been particularly significant in post-colonial Africa. After independence, the small size of the political elites inevitably made the military a competing force for power in society. The political position of the armed forces was further enhanced when officers were recruited from the new elite to replace the colonial officers. A possible way to secure the loyalty of the military is to satisfy its demand for weapons (Brayton, 1983; SIPRI, 1971). Thus, arms transfers may help to satisfy the corporate interests of the armed forces and reduce the potential for coups.

Arms Transfers, Military Centrality and Coups d'État
Instead of looking at the interest of the armed forces, military centrality theory focuses on the political position of the military vis-a-vis civilian institutions. The basic
argument is that civilian leaders would have little or no control over the military if the military is dominant in society and therefore coups d’état would be easily used by military leaders as tools against civilian governments (Johnson et al., 1984; Maniruzzaman, 1992).

Arms transfers can strengthen the political centrality of the military. The acquisition of advanced weaponry not only increases firepower of the military, but also ‘initiates a chain of events that cumulate in strengthening the armed forces’ (Maniruzzaman, 1992: 738). It is important to remember that modern weapon systems cannot be operated in a vacuum without the necessary auxiliary equipment, spare parts, and trained personnel. When a weapon system is transferred to an African country, new logistic systems and/or infrastructure will have to be installed and programs of training initiated for military personnel. As more new weapons systems are imported, more officers will be sent abroad to acquire the necessary skills to operate them and more military infrastructure will be built. The net result is that the armed forces become a modernizing organization in society and the position of the military vis-à-vis civilian institutions in society is strengthened. Consequently, military officers are likely to feel that they not only have the ability to manage the government, but could also do a better job than the civilian government.

**Arms Transfers, Domestic Economy and Coups d’État**

Many scholars have pointed out that military intervention is more likely to occur during periods of economic downturns (Londregan & Poole, 1990; Nelkin, 1967; Nordlinger, 1977). One possible reason for the linkage between deteriorating economic conditions and coups d’état is that governments are largely held responsible for the country’s economic health by their citizens. Poor economic performance implies incompetent incumbents, which therefore could intensify the military’s disrespect for the government. The motivation of the military to intervene would then increase based upon the belief that they could do a far better job.

The majority of the research on economic effects of arms transfers suggests that arms imports may retard the growth of recipient countries’ domestic economy. In order to meet the financial burden of military expenditures, arms importers may have to raise taxes or increase borrowing in capital markets. Both of those actions absorb funds that could otherwise go into investment for economic development (Ball, 1983a,b; Deger & Smith, 1983; Gottheil, 1974; Lim, 1983; Tullberg, 1985; Wolpin, 1983). Thus, expenditures on arms are likely to retard the economic performance of recipient countries.

A minority view has come to the opposite conclusion and argues that arms transfers have positive effects on the development of recipient countries because many of the activities associated with weapon purchases often involve construction of infrastructure. These activities, such as the building of railroads, highways and harbors, create jobs and have spinoff effects on the civilian economy. Training in the use of new weapons involves raising the level of general education, which in turn raises the quality of the workforce in the countries. Special skills required to operate new weapons may also transfer to the civilian economy later on. Arms transfers thus may contribute to the economic development of the recipient countries (Neuman, 1979; Pierre, 1982: 36–38).

Yet another negative view, primarily based on research on developed countries but which can equally be applied to developing countries like African states, has pointed to long-term negative effects of arms transfers...
transfers. In the short term, expenditures on defense may stimulate demand, increase employment, and generally expand economic activities. In the long term, a chronic and serious displacement of material and human resources will impose adverse effects on the domestic economy (Chan, 1985).

The above findings are particularly significant for sub-Saharan countries. Considering that most sub-Saharan African countries are poor and less developed, the expenditures on arms imports and necessary logistic systems may comprise a large proportion of the country’s resources. Arms transfers can have significant effects on the domestic economic performance of African countries. Since, in the majority view, increased military expenditure for arms transfers hurts the domestic economy, it is hypothesized that arms transfers have indirect and positive effects on the occurrence of African coups through retarding domestic performance.

**A Causal Model**

Figure 1 shows a causal model that outlines the hypotheses on the effects of arms transfers on coups d’état. The hypotheses on the direct and indirect effects of arms transfers are shown to the left of the dependent variable, coup events. The occurrence of coups is much more than simply a function of arms transfers and so Figure 1 also includes socioeconomic factors other than arms transfers to the right of the dependent variable.

Both lagged and non-lagged arms transfers are included in order to assess their long- and short-term effects on the occurrence of coups. Reading from the left, the argument that international arms shipments contribute to the occurrence of coups indirectly through retarding economic performance is represented by the arrows linking arms transfers (both lagged and non-lagged) and domestic economy and domestic economy to coup events. The indirect contribution of arms transfers to the occurrence of coups
d'état through the strengthening of the military's political position is represented by the arrows linking arms transfers (both lagged and non-lagged) and military centrality and military centrality to coup events. In addition, the model also includes hypotheses on the direct effects of arms transfers on African coups d'état. Because the acquisition of weapons is treated as an important corporate interest by the armed forces, the importation of weaponry may appease the military and win its support. Arms transfers may thus reduce the likelihood of coups d'état directly. These hypotheses are shown by the arrows from arms transfers to coup events.²

Figure 1 also includes five other factors to the right of the dependent variable which have been considered relevant in explaining African coups: social mobilization, ethnic dominance, the length of military rule, whether or not the country is a former French colony, and previous coup events. Social mobilization, following the conceptualization of Deutsch (1961), refers to the process by which ‘major clusters of old social, economic and psychological commitments are eroded or broken and people become available for new patterns of socialization and behavior’ (Deutsch, 1961: 494). Social mobilization has often been hypothesized to be destabilizing in developing countries not only because of the new social forces emerging and engaging in political affairs, but also because these societies lack strong and adaptable political institutions capable of mediating group political activities. In such a ‘praetorian’ society, as Huntington argued, ‘each group employs means which reflect its peculiar nature and capabilities. The wealthy bribe; students riot; workers strike; mobs demonstrate; and the military coup’ (Huntington, 1968: 196).

The positive effect of social mobilization is represented by the arrow linking social mobilization to coup events. The model also includes an arrow with a positive sign from domestic economy to social mobilization because the latter often occurs when a society is experiencing rapid economic growth (Huntington, 1968).

The existence of numerous ethnic groups is a dominant characteristic of African states. Many experts on African politics have noted the destabilizing effects of ethnic pluralism both inside the military and in society (Jenkins & Kposowa, 1990, 1992; Liebenow, 1986; Welch, 1986; Welch & Smith, 1974). It is reasoned that ethnically fragmented societies are inherently unstable because various ethnic groups may compete with each other for scarce resources. The more closely matched ethnic groups are in a society, the more intense the conflicts would be. Ethnic competition would thus increase the likelihood of military intervention in politics. Conversely, it can be argued that ethnic dominance reduces the likelihood of coups in sub-Saharan Africa.³ This hypothesis is represented by the arrow with a negative sign linking ethnic dominance and coup events.

The length of military rule is relevant because many African countries have been governed by military regimes for the
majority of time since their independence. Military governments usually exercise strict control over society and the armed forces. In order to maintain themselves in power, officers on the top frequently use coercive measures against their critics and opponents, whether they are civilian or military personnel. Using Ethiopia and Togo as examples, some scholars thus argue that military rule may negatively affect the occurrence of African coups. This hypothesis is represented by the arrow with a negative sign linking the length of military rule and coup events.

Observers have also argued that French foreign policy towards its former African colonies plays an important role in maintaining regime stability in Africa (Moose, 1985; Volman, 1980). After the end of the Vietnam War, Africa became strategically important for the military competition between the camps led by the United States and the former Soviet Union. While both superpowers sustained military ties with African countries, neither had a strong commitment to use its own military forces to intervene directly in African internal political conflicts because neither considered Africa important enough to justify direct military intervention. France, on the other hand, has played a leading role in Africa due to its strong ties with former colonies. Perceiving political instability as a major threat to vital political and economic interests, the French government has bilateral defense agreements with several African states allowing the French to intervene militarily at the request of the African governments. France has thus maintained permanent military bases in countries like Gabon, Côte D'Ivoire, and Senegal. In addition, almost all Francophone states, including Zaire, Rwanda, and Burundi, have military assistance agreements with France.

Since the mid-1970s, France has repeatedly intervened militarily to back existing governments against insurgents in Senegal, Chad, Zaire, and the Central African Republic. The presence of French troops and France's history of direct military intervention in its former colonies have played a significant role in blocking coups and suppressing rebellions in Francophone Africa.

Finally, the occurrence of previous coups may be an important indicator for explaining regime instability (O'Kane, 1981). Whether there has been a previous coup event or not serves as an important boundary for military intervention. Where there is no precedent for military intervention, coup conspirators are less likely to opt for radical measures to realize their objectives. Once the line of subordination to civilian governments is crossed, military leaders find it much easier to use force to solve political disputes. Thus, it is reasonable to expect that the existence of previous coup events contributes positively to the occurrence of later coups in Africa, and indeed a number of African countries have experienced a succession of coups and attempted coups following an initial event.

Data and Measurement

This study includes 35 sub-Saharan African countries that have been independent since the end of 1970 (listed in the appendix). An important issue involves the width of measurement interval. Many previous studies have aggregated data over a time-span of over two decades. The problem with this

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4 I want to thank an anonymous reviewer who raised this point.

5 This decision is made because, as Johnson et al. (1984) argued, 'time must pass before the cumulative impact of coup-facilitating conditions takes effect' (Johnson et al., 1984: 629). When we use the 1970 cut-off point, the majority of sub-Saharan African countries will have experienced independence for 8–14 years.

6 For example, Johnson et al. (1984) aggregate coup events for the period 1960–82 and Jenkins & Kposowa (1990) cover 1957–84.
wide interval is that researchers have had to compromise on measurement because data on independent variables from the earlier years are usually not available. In many instances, the dates of dependent variable data precede those of independent variables and the question of causality is raised.7 Thus, this study focuses on the time period 1981–90. The 10-year interval seems appropriate as it allows both the cumulative effect of coup-facilitating conditions to take effect and expedites the finding of comparable data.

**The Dependent Variable**

Because this study centers on military involvement in African countries, it includes successful coups, failed coups, and coup plots, where a state’s military, security, or police forces were involved.8 Unlike many previous studies (e.g. Jackman, 1978; Johnson et al., 1984), which created a composite scale by weighing successful coups, failed coups, and plotted coups differently, the dependent variable of this research, coup events, is a simple sum of all of the events reported for a given country. Two arguments support this measurement. First, weighing different coup events is a largely subjective exercise and is very difficult to justify one way or another. For example, why should a successful coup be weighted by 5 and a coup plot by 1, as Jackman as well as Johnson et al. have done? Second, as Jenkins & Kposowa (1990) argued, weighing coup events differently really attempts to capture the coup ‘intensity’ rather than the structural likelihood of military intervention. As coups, failed coups, and coup plots are three interrelated events, a simple sum of all of the events represents the ‘structural propensity’ of military intervention.


**Independent Variables**

There are nine independent variables, exogenous and intervening, that are included in the causal model shown in Figure 1. The key independent, arms transfers, is defined as international transfers of conventional military equipment by means of grants, credits, or cash (USACDA, 1984: 106). Considering that the goal of this research is to assess the extent to which international arms shipments affect the occurrence of coups in Africa, a simple measure of absolute value (in constant dollars) of arms transfers should meet this purpose. However, as sub-Saharan countries vary in size of population and economic resources, it is necessary to introduce some controls over these factors. Arms transfers in this study is operationalized as the average ratio of arms imports over military expenditures. A variable named lagged...
The relevant data are taken from the annual *World Military Expenditures and Arms Transfers* (WMEAT) published by USACDA (1983, 1994).  

*Domestic economy* is measured by the average growth rate of Gross Domestic Product (GDP), which estimates the economic health of an African country during this period. *Military centrality* is measured by the sum of the 10-year average military expenditure as a percentage of Gross National Product (GNP) and the average number of armed forces personnel per 1,000 people.  

This measure assesses the monetary and human resources that the armed forces take from the society and thus reflects the political position of the military in the society. Data for these two variables are from World Bank (1993) and USACDA (1994).

*Social mobilization* is measured by the sum of the 10-year average of urban population percentage and the 10-year average percentage of primary school age children who are enrolled in schools. This measurement reflects key elements of the mobilization process when viewed as a consequence of education and urbanization (Huntington, 1968). *Ethnic dominance* is measured as the percentage of the population in the largest ethnic group, a commonly used indicator in previous studies (e.g. Jackman, 1978; Jenkins & Kposowa, 1990). This variable aims to assess the potential for political superiority by any group on the basis of its numerical strength.  

*The length of military rule* is measured by the number of years under a government headed by military personnel that acquired political power through coups.  

Data on social mobilization and ethnic dominance are obtained from the World Bank (1993) and Morrison et al. (1989), respectively, while the data sources for the length of military rule are Middleton (1997) and *Africa: South of the Sahara* (1992).

To tap the impact of French policy, a dummy variable, *former French colony*, is created with all of the Francophone states coded as 1 and all others coded 0. Finally, a variable called *previous coup events* is created as a simple sum of successful coups, failed coups, and plotted coups from the date of independence to 1980.
This study employs an event-count analysis in conjunction with conventional regression techniques for statistical estimation of the structural equations implied in Figure 1. An ordinary least squares (OLS) is applied to the equation when the dependent variable is domestic economy, military centrality, or social mobilization, but an event-count technique is used when the dependent variable is coup events.\(^{13}\)

Probably the simplest specification of an event-count analysis is the exponential Poisson regression (EPR) model. Specifically, the EPR model takes the form of:

\[
E(Y) = \exp(\mathbf{X}\beta) = \exp\left(\sum_{i=1}^{p} X_i\beta_i\right)
\]

where \(i=1 \ldots N\), and \(p < N\); \(E(Y)\) is the expected value of the dependent variable; \(\mathbf{X}\) is a vector of independent variables; and \(\beta\) is a vector of regression estimates.

The goal is to estimate the vector of regression estimates, \(\beta\), in which each element represents the individual effect of \(X_i\), a particular independent variable, on the dependent variable or the observed event count.\(^{14}\)

\(^{13}\) For a discussion of the rationale of using an event count analysis, see Cameron & Trivedi (1986) and King (1988, 1989).

\(^{14}\) The EPR model is not the only specification for event-count analysis. The most commonly seen alternatives are the negative binomial models which differ from the EPR model in their specification of the variance of \(Y\). Cameron & Trivedi (1986) have shown that two negative binomial models, which they have termed \(\text{NEGBIN I}\) and \(\text{NEGBIN II}\), can be generated by different specifications of variance:

\[
(2) \quad V(Y) = (1+\alpha)\lambda_i \quad \text{(NEGBIN I)}
\]

\[
(3) \quad V(Y) = \lambda_i(1+\alpha\lambda_i) \quad \text{(NEGBIN II)}
\]

The adequacy of the Poisson model thus depends on the outcome of tests of the nuisance parameter, \(\alpha = 0\). If \(\alpha\) is not significantly different from zero, the expected value and variance of \(Y\) are equal and the negative binomial models will reduce to exactly the Poisson model. If \(\alpha\) is greater than and significantly different from zero, the Poisson model should be rejected. See Wang (1993) for a concise discussion on this issue.

Statistical Estimation

Table I presents the EPR results\(^{15}\) when the dependent variable, coup events, is regressed on the nine independent variables.\(^{16}\) The highly significant negative coefficient of lagged arms transfers supports the hypothesis that international arms shipments have long-term direct effects on reducing military intervention in Africa. The statistically insignificant coefficient of non-lagged arms transfers shows that arms transfers have no immediate direct effect on the occurrence of African coups. An analysis of the robust standardized residuals, however, indicates that Burkina Faso is an outlier.\(^{17}\) Following the suggestion of Lewis-Beck (1980: 40–41), the outlier is removed from the analysis and the parameters are re-estimated.\(^{18}\) The new results presented in Panel 1.2 are similar to those in Panel 1.1 except

\[
(4) \quad \hat{V}(\gamma_i) = 1.67\hat{\lambda}_i
\]

\[
(0.57)
\]

\[
(5) \quad \hat{V}(\gamma_i)/\hat{\lambda}_i = 1.83 - 0.01\hat{\lambda}_i
\]

\[
(0.72) \quad (0.20)
\]

From Equations (2) and (4), it can be seen that \(\hat{\alpha} = 1.67 - 1.0\). The estimated \(t\)-statistic is not statistically significant at the 0.05 level with a one-tailed test. Because \(\hat{\alpha}\) is also insignificant in Equation (5), it is concluded that a Poisson specification is adequate and a negative binomial parameterization is rejected.

\(^{15}\) The square root of the variance inflation factor (VIF) is used in this study to test multicollinearity, where \(\text{VIF} = 1/(1 - R^2)\) (Fox, 1991). None of the square roots of the VIFs is greater than 2 in this study. Thus, it is concluded that multicollinearity is not a problem.

\(^{16}\) As noted, the adequacy is determined by investigating whether the nuisance parameter, \(\alpha\), is significantly greater than zero. Consider the Poisson residuals, \(u_i = y_i - \lambda_i\), and let \(V(u_i) = y_i - \lambda_i\). The following regressions can be obtained for Panel 1.1 (standard errors in parentheses):

\[
(6) \quad \hat{V}(\gamma_i) = 1.13\hat{\lambda}_i
\]

\[
(0.35)
\]

\[
(7) \quad \hat{V}(\gamma_i)/\hat{\lambda}_i = 1.33 - 0.03\hat{\lambda}_i
\]

\[
(0.40) \quad (0.11)
\]

\(^{17}\) The robust standardized residual for Burkina Faso in Panel 1.1 is 2.23.

\(^{18}\) Equations (6) and (7) again suggest a Poisson specification is adequate for Panel 1.2:
Table I. Exponential Poisson Regression of Coup Events on Arms Transfers and Other Explanatory Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>(1.1) All valid cases included</th>
<th>(1.2) Outlier excluded</th>
<th>(1.3) Final version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arms Transfers</td>
<td>0.09 (0.30)</td>
<td>0.38 (0.29)</td>
<td>—</td>
</tr>
<tr>
<td>Lagged Arms Transfers</td>
<td>-1.34** (0.42)</td>
<td>-1.31** (0.42)</td>
<td>-1.01** (0.35)</td>
</tr>
<tr>
<td>Military Centrality</td>
<td>0.07** (0.02)</td>
<td>0.09** (0.03)</td>
<td>0.09** (0.02)</td>
</tr>
<tr>
<td>Domestic Economy</td>
<td>-0.03 (-0.07)</td>
<td>-0.16* (0.08)</td>
<td>-0.15** (0.06)</td>
</tr>
<tr>
<td>Social Mobilization</td>
<td>-0.08* (0.04)</td>
<td>-0.01 (0.04)</td>
<td>—</td>
</tr>
<tr>
<td>Ethnic Dominance</td>
<td>-0.06 (0.06)</td>
<td>0.003 (0.07)</td>
<td>—</td>
</tr>
<tr>
<td>Length of Military Rule</td>
<td>0.07* (0.04)</td>
<td>0.03 (0.04)</td>
<td>—</td>
</tr>
<tr>
<td>Former French Colony</td>
<td>-0.50* (0.26)</td>
<td>-0.77* (0.30)</td>
<td>-0.73** (0.28)</td>
</tr>
<tr>
<td>Previous Coup Event</td>
<td>0.04 (0.03)</td>
<td>0.07* (0.03)</td>
<td>0.08** (0.02)</td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>17.41</td>
<td>12.70</td>
<td>11.49</td>
</tr>
<tr>
<td>N</td>
<td>35</td>
<td>34</td>
<td>34</td>
</tr>
</tbody>
</table>

**p < 0.01, *p < 0.05, one-tailed test. Figures in parentheses are standard errors.

that the regression coefficients of domestic economy and previous coup event are now statistically significant while those of social mobilization and the length of military rule are not. Although the outlier affects these results, it has no significant effect on the previous finding on the relationship between arms transfers and coup events. The coefficient of lagged arms transfers continues to be statistically significant and bears a negative sign as hypothesized while that of non-lagged arms transfers remains statistically insignificant.

The empirical results also support other hypotheses. Both military centrality and previous coup experiences have the anticipated positive effects on coup events. The negative impacts of domestic economy and former French colony are also consistent with our hypotheses. Contrary to previous findings (Jackman, 1978; Johnson et al., 1984) and our expectations, social mobilization, ethnic dominance, and length of military rule are statistically insignificant, which suggests their marginal importance in accounting for African coup events. These three variables along with non-lagged arms transfers are thus omitted when the final version of the equation is estimated with the results presented in Panel 1.3.19

As suggested in Figure 1, arms transfers may also affect coup events indirectly through three different paths: through military centrality, through the domestic economy, and through the former French colony.
economy, and through the domestic economy and social mobilization. The following regression equations present the OLS estimates excluding Burkina Faso (standard errors in parentheses):

\[ (10) \quad \text{Military Centrality} = 4.79 - 1.32 \text{Arms Transfers} + 5.08 \text{Lagged Arms Transfers} \]
\[ N = 34 \quad R^2 = 0.17 \]

\[ (11) \quad \text{Domestic Economy} = 2.65 + 0.63 \text{Arms Transfers} - 0.90 \text{Lagged Arms Transfers} \]
\[ N = 34 \quad R^2 = 0.02 \]

\[ (12) \quad \text{Social Mobilization} = 9.15 + 0.33 \text{Domestic Economy} \]
\[ N = 34 \quad R^2 = 0.05 \]

As Equation (10) shows, only lagged arms transfers have a statistically significant effect on military centrality while the coefficient of non-lagged arms transfers is statistically insignificant. This finding suggests that arms transfers, while having no immediate effect on military centrality, enhance the political position of the military in the long term. In this analysis, arms transfers do not exert indirect impacts on the occurrence of African coups through the domestic economy and social mobilization because none of the regression coefficients are statistically significant in Equations (11) and (12).

Discussion

Figure 2 provides a summary of the above results. Unfortunately, current statistical knowledge does not allow for the calculation of indirect and cumulative effects through the combined use of event-count analysis and conventional regression techniques. Even though the comparison of varying effects through different paths cannot be made as in a traditional path analysis, the nature of such effects (i.e. positive or negative) can still be discerned.

First of all, as Figure 2 shows, arms transfers have a robust long-term negative effect on the occurrence of coups in Africa. This finding lends support to the argument that the defense of corporate interests is one of the most important motives for military intervention. While there are many things deemed vital to the military, it is commonly regarded as the primary duty of the commanders to modernize and develop the armed forces. It is within this context that the procurement of advanced weaponry plays a role in meeting the military’s demand. As one prominent scholar has convincingly argued, African political leaders frequently ‘turn to the time-honored tactic … to obtain ever more and better military equipment’ in order ‘to stave off discontent within the armed forces’ (Welch, 1970: 58). However, the lack of immediate effects of arms transfers on African coup events suggests that the procurement of advanced weaponry is not an immediate panacea. Political leaders simply cannot expect that meeting the military’s demand for better equipment will immediately secure the support of the officers corps. It would take a considerably longer time for African leaders to obtain the military’s loyalty by meeting its demand for advanced weaponry.

Arms transfers also have long-term indirect and positive effects on coup events
Figure 2. Observed Causal Paths of African Coups d'État

Through enhancing the political position of the military. As theorized earlier, the acquisition of various weapon systems not only increases the firepower of the military, but also advances it as a modernizing organization. The overall expertise of military officers is broadened as new knowledge is acquired through training required to operate advanced weaponry. An increased 'new professionalism,' as suggested by Stepan (1973), is likely to occur, which strengthens the political position of the armed forces and the confidence of military officers. It is precisely this military centrality that many scholars believe contributes to the choice to intervene directly in politics via a coup (Jenkins & Kposowa, 1990, 1992; Johnson et al., 1984; Welch & Smith, 1974).

Figure 2 shows that there is no causal linkage between arms transfers (both lagged and non-lagged) and the state of the domestic economy. This is most likely because many African states acquire their arms on concessional terms (Arlinghaus, 1983) and thus arms imports have had little effect on their domestic economies. Nevertheless, a deteriorating economy does contribute independently to the occurrence of African coups. Economic difficulties, if not providing the motive for staging a coup, can create an opportunity for the armed forces to intervene in politics (Wiking, 1983).

The negative sign between former French colony and coup events in Figure 2 suggests that being a Francophone state has substantially reduced the likelihood of coups in Africa. This is primarily because France has maintained strong trade, financial, political, and military ties with its former colonies (Luckham, 1982; Martin, 1985; Moose, 1985). France was willing throughout this period to commit resources to insure these regimes' survival and it would have been impossible for these countries' military leaders not to know and take account of this in their assessment of the prospects for direct intervention in politics. The positive relationship between previous coups events
and current events shows that an early history of military intervention has a strong impact on the civil–military relations. Military officers are more likely to use the coup d’etat as a means to realize their objectives when there is precedent for military intervention; especially when they contemplate replacing a government that itself gained power through a coup.

Consistent with previous findings (e.g. Jenkins & Kposowa, 1990), social mobilization exerts no direct effect on African coup events. One possible explanation is that coups are basically the result of conflict between elites with no connection to the masses. Any change of social mobilization at the mass level would be irrelevant to the transfer of power via coups d’état at the elite level. It is also the case that despite the widespread acceptance in the discipline of ethnicity as an inherently destabilizing factor in African politics, this study finds no empirical evidence to support that point of view. In fact, an analysis of initial declarations by coupmakers shows that ethnic issues have rarely been mentioned as a justification for military intervention in politics (Wiking, 1983). While one cannot therefore comfortably exclude ethnicity as a contributing factor to African coups, this analysis suggests that the distribution of ethnic groups at the societal level is irrelevant to military intervention in Africa. An alternative hypothesis may lie in ethnic conflicts within the military.

Finally, contrary to our expectations, the length of military rule has no effect on the occurrence of coups in sub-Saharan countries. While African armed forces may overthrow civilian governments, it is equally likely for them to topple military regimes.  

Conclusion

The most important finding of this study is that international arms shipments have long-term direct and indirect effects on the occurrence of coups in Africa. Although current statistical knowledge does not allow the comparison of varying effects through different paths in the current study, it is clear that arms transfers have differential direct and indirect effects on African coup events. While the procurement of advanced weaponry may satisfy the military’s corporate interests and hence reduce the likelihood of coups, arms transfers may also destabilize African states by strengthening the political position of the armed forces in the society. As African leaders frequently use arms transfers as a means of satisfying military’s demand for weapons in order to secure its loyalty and support, these significant findings thus pose a policy paradox for them.

These findings also have important theoretical implications to the discipline, as they demonstrate the linkage between two well-researched areas – the study of arms transfers and African coups d’état. Luckham, in a recent review of the literature on African military, has concluded that ‘studies of African military establishments have continued to leave out or downplay the international dimension’ (Luckham, 1994: 24). As noted, while there are some studies that examine external factors as possible causes of African coups, the political effects of arms transfers on coups has received only scant attention (Luckham, 1985; Maniruzzaman, 1992). Furthermore, the literature on arms transfers has been written primarily from the perspectives of international security and the arms trade (e.g. Hess, 1989; Klare, 1986; Kolodziej, 1987; Laurance, 1992; Neuman & Harkavy, 1979; Pierre, 1982; SIPRI, 1971). Attention to the domestic consequences of arms transfers has largely been
placed within the broad framework of militarization, with an emphasis on their social and economic implications (Ball, 1983a,b; Chan, 1985; Deger & Smith, 1983; Frederiksen & Looney, 1983; Gottheil, 1974; Kick et al., 1990; Lim, 1983). Building upon previous work, this study integrates theories of arms transfers and coups in order to evaluate the political consequences of international arms shipments. The theoretical justification and robust empirical evidence presented above have added an additional piece of evidence that international arms shipments and African coups are, in fact, related.

References


* T. Y. WANG, b. 1957, PhD in Political Science (State University of New York at Buffalo, 1990); Associate Professor, Illinois State University (1990– ). Current research interests: civil-military relations, political violence, East-Asian politics and empirical methodology. Author of various articles in American Political Science Review, Arab Studies Quarterly, and Journal of Political and Military Sociology.
## Appendix

### List of Countries

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* Coup events is a simple sum of successful coups, failed coups and coup plots.
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