THE ECONOMICS OF THIRD WORLD DEFENSE EXPENDITURES: A SURVEY OF RECENT FINDINGS ON THE CONTRASTING PATTERNS OF IMPACT AND DETERMINANTS

By Robert E. Looney*

INTRODUCTION

A body of conventional wisdom has amassed over the years concerning the causes and consequences of Third World militarization.[1] More often than not in assessing the likely impacts of defense expenditures this wisdom has been anecdotal and biased towards the standing "guns versus butter" analogies. Similarly, strategic-political variables and explanations such as external threats, alliances, and regional arms races have been the standard explanations for the level of Third World military spending and arms imports. Finally, independence of major suppliers, emulation of neighbors and fear of arms boycotts have dominated the discussion as to why Third World countries are increasingly turning to indigenous arms production.

The main purpose of this paper is to indicate the manner in which recent empirical studies of different sub-groupings of developing countries[2] have extended several areas of knowledge regarding various aspects of Third World militarization. In particular, we are interested in determining in what manner and to what extent this recent quantitative research challenges conventional wisdom.

*Professor of National Security Affairs, Naval Postgraduate School, Monterey, California 93943. Professor Looney has authored seventeen books, to include *Economic Origins of the Iranian Revolution* (Pergamon Press, 1982); *Third World Military Expenditures and Arms Production* (Macmillan, 1988); *Economic Development in Saudi Arabia: Consequences of the Oil Price Decline* (JAI Press, 1989); *The Economies of Third World Defense Expenditures* (JAI Press, 1990); and *Industrialization in the Arabian Gulf*, (Duke University Press, 1991). Professor Looney has published over seventy papers on the Middle East.

THE IMPACT OF DEFENSE EXPENDITURES ON GROWTH

Since the modern defense establishment is a heavy consumer of technical and managerial manpower and foreign exchange, resources that are especially scarce in the Third World, the conventional wisdom is that increased defense borders should reduce the overall rate of growth.[3]

This proposition was first empirically challenged by Emile Benoit.[4] Benoit's rationale for a possible positive link between defense and growth was, however, never widely accepted. It took nearly ten years for Charles Wolf's analysis to provide intellectual respectability to the proposition that by creating a more stable environment it was very possible in certain cases or situations for added defense expenditures to stimulate higher rates of investment, technological progress, technology transfer and hence increased overall growth.[5]

Studies using large samples of developing countries have often lent weak support to the conventional theories.[6] However, research examining the economic impact of Third World military expenditures utilizing various sub-groupings of countries have tended to confirm Wolf's prognosis.

This research has been largely undertaken at the Naval Post-graduate School.[7] It has gone through various stages and levels of sophistication with the initial studies largely confined to ordinary least squares regression techniques utilizing Benoit's data set for the 1950-65 period.

In the original study, countries were grouped on the basis of discriminate analysis with savings and investment used as discriminating variables. Frederiksen and Looney found countries with relatively high levels of savings and investment experienced positive impacts on growth, while the impact was statistically insignificant for countries experiencing low levels of savings and investment.

A second study also used Benoit's sample countries.[8] In this paper, however, countries were grouped largely on the basis of: (a) foreign exchange earnings, (b) import elasticity, and (c) productivity of investment. Again, countries relatively unconstrained experienced positive impacts on growth stemming from defense expenditures, while the relatively foreign exchange constrained countries showed a statistically insignificant but negative impact.

Using a later time period, 1965-73,[9] and again grouping developing countries on the basis of their relative savings and investment, Frederiksen and Looney found that the relatively unconstrained countries enjoyed a positive impact stemming from defense expenditures. It should be noted here that these initial studies examined only the impact of defense expenditures on growth.

More recently, analysis in the area has become more sophisticated, utilizing either more elaborate statistical devices and/or subtle country groupings. For example, the studies examining the effects of relative resource constraint[10] represent a more elaborate variant of earlier themes in that they used factor analysis for selecting variables for a subsequent discriminate analysis. As before, analysis produced two groups of Third World countries. This time the grouping was based on total access to foreign resources—exports, external borrowing and the like. Again, countries with abundant foreign exchange derived positive impacts on growth from military expenditures while that group of countries experiencing foreign exchange shortages found growth unaffected by military spending.

Dividing Third World countries on the basis of their indigenous production (or lack of) of at least one major weapons system,[11] it appears that for the 1970-82 period, Third World military producers experienced positive impacts from military expenditures on growth, investment, savings, but declines in productivity, while non-producers experienced declines in growth and investment.

Groupings of Third World countries on the basis of regime type (military or civilian) also produced similar results with military regimes[12] obtaining positive impacts from military expenditures. The same pattern[13] emerged when countries were grouped on the basis of the legitimacy of govern-

ment (and threat faced by the regime from internal or external sources).

In recent years, analysis has branched into more complex issues, utilizing both time series[14] and simultaneous equation models estimated by two and three stage squares regression techniques. This research is attempting to incorporate the demand for military expenditures along with their impacts in an attempt to determine feed backs from one to the other.

Interestingly enough the results[15] produced by these techniques tend to confirm the results obtained from simpler, more naive models.

In short, the research summarized above demonstrates a consistent pattern whereby certain groups of Third World countries—usually the more successful economically, the most stable politically, or those engaged in military production derive positive impacts form military spending. Those countries less successful economically, more politically unstable or lacking a domestic arms industry fail to derive any positive economic impacts from defense expenditures. However, it is important to note that defense expenditures may also be associated with a number of adverse effects. This is the case even in those countries experiencing higher overall rates of growth from increased allocations to defense. In particular, countries with an indigenous arms industry may suffer a deterioration in the distribution of income from added defense expenditures.[16] The same may also occur in military regimes as income is shifted by the government from urban consumers to industrial groups.[17]

DIFFERENCES BETWEEN CIVILIAN AND MILITARY REGIMES

A second area of conventional wisdom concerns the economic behavior and socio-economic priorities of Third World military regimes. Here the general stereotype of modern Third World military regimes is ultra-conservatism combined with

military force to dismantle organizations of popular expression, restrain real wages, promote integration into world trade and financial markets, and to hold down social reform as well as mass consumption in the interest of favoring capital accumulation and upper class income.[18]

Everything else equal, conventional wisdom holds that Third World military regimes will have a higher defense burden (in terms of the percentage of Gross National Product (GNP) allocated to defense) and a larger share of the central government budget allocated to defense than in the case of their civilian counterparts. It turns out, however that military and civilian regimes tend to have a number of superficial similarities with regard to defense allocation—similar military burdens, armed forces per capita, and the share of the budget allocated to defense. These similarities extend to the determinants of military expenditures per capita and the military burden. That is, both regime types exhibit a fairly similar linkage between the share of the budget allocated to defense and the tax burden.

If civilian and military regimes differ with regard to defense expenditures, it must be in the timing and manner in which military expenditure decisions are made and in the means through which resources are mobilized for defense uses.[19] This may in turn affect the economic impacts associated with military expenditures in both types of regimes:[20]

1. While it appears that higher levels of defense[21] expenditures tend to increase economic growth in military regimes, civilian regimes experience reduced growth with added allocations to defense.
2. In terms of the impact of military expenditures, several significant differences exist between military and civilian regimes:
   (a) Civilian regimes suffer reduced levels of human capital attainment with increased levels of total military expenditure whereas no statistically significant relationship is present in the case of

military regimes.[22]

(b) Civilian regimes increase public expenditures per capita and military expenditures as a share of GNP simultaneously with increased allocations to defense. In this regard, military regimes show no apparent pattern.[23]

(c) Military regimes experienced higher levels of nutrition with increased levels of military expenditure, whereas their civilian counterparts experienced reductions (not statistically significant) in nutritional levels with added military expenditures[24] and

(d) Military regimes tend to increase the number of physicians per capita and teachers per school age population with added military expenditures, while there is no apparent relationship in the case of civilian regimes.[25]

In short, of the four major measures of the quality of life, military regimes experience improvement in two with added military expenditures and no declines in the other two. On the other hand, their civilian counterparts experience reduced levels of human capital, population per professional and perhaps nutrition with increased levels of military expenditures.

In part it is likely that a good proportion of these differences stems from differences in the budgetary priorities of military and civilian regimes:

1. Civilian regimes appear much less likely to reduce social programs during periods of expanded defense expenditures than their military counterparts. In fact civilian regimes tend to increase a number of social programs—total social expenditures and welfare expenditures are both expanded in line with defense. These expanded budgetary shares tend to come at the expense of economic services, particularly funds allocated to

agricultural development.[26]

2. Since economic allocations tend to bear the brunt of expanded military budgets under civilian rule, increased military spending is likely to infringe on growth inducing allocations and hence ultimately growth itself.

3. In contrast, the military regimes, perhaps because they are not as constrained by civilian opinion and preferences, tend to be less inclined to maintain social programs during periods of military build-up. This in turn allows them the luxury of avoiding major cuts in economic allocations (and perhaps to expand in some economic areas). Apparently, one aspect of this budgetary pattern is the avoidance of cut backs (and perhaps even expansion) in growth inducing allocations during periods of military build up.

Explaining the observed higher (relative to civilian regimes) levels of basic needs attainment with increased defense expenditures in military regimes is more difficult.

One factor that may be partially responsible for this phenomenon is the different patterns of external borrowing observed for civilian and military regimes. It appears[27] that military regimes have financed a considerable part of their defense expenditures through external borrowing. Civilian regimes on the other hand show no statistically significant relationship between military expenditures and public external debt.

Because of the positive impact military expenditures may have on growth in military regimes, budget allocations can be made in an expanding sum environment i.e. there can be increases in defense and in quality of life enhancing activities.

Clearly, military regimes are unlikely to experience only expanding sum situations associated with increases in military expenditures. Some groups and/or sectors in these countries are likely to suffer declines in their standard of living, particu-

larly during periods of increased defense allocations. After examining a number of links with the Civilian sector — agricultural growth, employment and so on, it appears that defense expenditures are largely supported by reductions in personal consumption in the military regimes. Again this fact implies that increased growth stemming from military expenditures comes about in a manner that may significantly skew income distribution towards increased inequality.[28]

Perhaps because of their authoritarian nature, military regimes, through controlling organized labor groups and thus wages, are able to control private consumption to an extent not possible in civilian democratic regimes. This process undoubtedly frees up additional resources for both investment and defense activities.

The fact that public consumption in military regimes is more closely linked to government revenues than is the case in civilian regimes also indicates the degree of relative control over the economy possessed by these governments.

Several other differences[29] between military and civilian regimes may contribute to the growth, budgetary and quality of life patterns outlined above:

1. Military regimes appear to be in somewhat better control of military expenditures. That is, relative to civilian governments defense allocations in these regimes can be timed and phased over time so as to not produce the generally adverse economic effects (such as a lowering in the share of investment in Gross National Product (GNP), increased growth in imports and higher rates of inflation) found in civilian regimes.
2. While both military and civilian regimes experience rent seeking behavior, (as reflected in price distortions in financial, foreign exchange, and labor markets), different groups seem to be favored in each regime type, with civilians favoring urban consumers and military regimes favoring industrial groups.
3. While still conjectural at this point, it appears that military regimes may be able, through shifting income from agriculture to finance defense expenditures, to preserve and perhaps increase the level of high saving/high investment groups during periods of military build-up. This undoubtedly accounts for the increase in savings and investment associated with increased military expenditures in military regimes (but not civilian).
4. It follows that civilian regimes, having less control over rent seeking groups (and perhaps military pressures for additional equipment), do not appear to be able to combine rent seeking activity and military expenditures in a manner conducive to overall growth.

The results summarized for the impact of military expenditures in the contrasting political settings may provide some insight as to why aggregate studies of Third World economies have failed to find significant links between economic variables and military expenditures. Since the signs of the major economic variables affecting military expenditures are considerably different depending on whether a country has a civilian or military regime, aggregating all countries in a single regression tends to blur the impact of the individual economic variables.

DETERMINANTS OF MILITARY EXPENDITURES AND ARMS IMPORTS

A Third major area where a long standing conventional wisdom prevails concerns the underlying factors responsible for Third World military expenditures and arms imports. As noted above, while some differences in military expenditure levels can be accounted for by differences in regime type, the bulk of the literature[30] in this area stresses external or strategic-political variables as critical in affecting military expenditures. Recent research[31] however, indicates that over all expenditure constraints may ultimately set the actual range in which military expenditures are likely to fall.

Furthermore, examining countries as groups based on their regime type, production capabilities, and resource constraint, it appears that large differences occur in the manner in which economic factors affect military expenditures between different sets of countries.[32]

With regard to regime type:

1. Defense expenditures are not related to overall economic activity in military regimes.[33] This result suggests that a greater degree of budgetary flexibility exists in military regimes. That is, military regimes may be able to respond more rapidly to changes in perceived threat than their civilian counterparts. In civilian regimes there is a close association between military expenditures and gross domestic activity, perhaps indicating a sufficient target share of military expenditures in gross national product is established to retain support of the military.
2. As a result, public external debt has been highly significant in financing (directly or indirectly) defense expenditures in military regimes. Civilian regimes appear quite reluctant to go into further debt simply to support a higher level of military expenditures[34] and or arms imports.[35]
3. Increases in price distortions were used to mobilize resources for military expenditures in the military regimes, but these increases had a negative impact on the military budget in civilian regimes.
4. Exports were statistically significant in contributing to increased military expenditures in the military regimes, but not in the case of civilian regimes.

In summary, the picture that emerges is one of military regimes being committed to developing the size of the defense sector to levels not warranted by economic size per se. They have done this through extensive use of externally borrowed funds. They have utilized increases in foreign exchange earnings to expand defense allocations and they have distorted their price systems in a manner that facilitated increased defense expenditures. It is interesting to note that well over eighty-five percent of the fluctuations in both military and civilian regimes can be accounted for by a limited number of economic variables. This fact holds irrespective of perceived threats, geographical location, or pressures from arms suppliers—factors often used to explain the level of military expenditures in the Third World.

In terms of the producers and non-producers, the results of a small model linking arms production, resource constraints, military expenditures and arms imports,[36] demonstrated that a high proportion of the various measures of resources allocated to the military in arms producing countries can be accounted for by internal (economic) factors. On the other hand, non producer environments are relatively more susceptible to external factors. Apparently, the possession of an indigenous arms industry results in on-going demands to maintain relatively high (and stable) levels of defense expenditures. The governments of non producing countries may not face the same political pressures to maintain high levels of defense expenditures during periods of low external threat simply to maintain employment in defense plants. As a result their military budgets tend to be relatively volatile. These patterns are reinforced by the fact that with several exceptions hardly any output from Third World defense plants is absorbed by external markets. This places great pressure on internal sales to sustain efficient levels of production.

In short, arms producers appear to apply some sort of "Military Keynesianism" based on stimulating demand in defense plants during deflationary periods.[37] Clearly if the advanced countries are serious in their concerns over increasing defense burdens in the Third World, one way to reduce the level of military expenditures in these countries would be through much stricter control of the licensing of arms production technology, and the restriction of financial credits to build additional plants.

In addition, the producing countries appear to finance a large part of their military expenditures with external debt and therefore are not necessarily shifting domestic resources away from productive activities to produce arms. Tighter controls on foreign lending to these countries would undoubtedly make arms production somewhat less attractive.

Resource constrained and unconstrained countries exhibit a number of similarities to the producer/non-producer dichotomy:[38]

1. Third World countries are not homogenous with regard to the factors affecting arms imports, overall military expenditures, and arms production. It appears access to foreign exchange is the common thread in accounting for fundamental differences between the these countries with regard to both the production and importation of arms.
2. Similarly, the use of public external indebtedness to finance arms imports does not appear to be universal among developing countries. In fact, it is possible that a large group of relatively debt-free (debt as a percentage of Gross Domestic Product) resource unconstrained countries have contained arms imports within the limits imposed by self-financing rather than risk jeopardizing their overall credit worthiness.[39]
3. On the other hand, it is possible that a large proportion of the debt accumulated by the resource constrained group of developing countries has stemmed from military expenditures. Apparently, the perceived need to expand defense expenditure by this group in the face of foreign exchange shortages has resulted in relatively high levels of external indebtedness measured either as a percentage of exports or GNP for the group as a whole.[40]
4. Indigenous arms production in the Third World has tended to reduce the importation of arms. Again, however, the extent of this reduction may vary by country type with the most significant reductions occurring in countries with relatively abundant supplies of foreign exchange.
5. Finally, it appears that arms imports most likely will not reach levels attained in the late 1970s. This is due not so much to constraint on the part of suppliers and recipients, but more to: (a) lack of foreign exchange in many of the Third World countries, and (b) the development of indigenous production capabilities on the part of others.

In sum, it is possible once the environment is defined to account for a large proportion of military expenditures and arms imports by resorting to internal (economic factors). External (threat) factors seem to be marginal in affecting these variables.

FACTORS CONTRIBUTING TO INDIGENOUS ARMS PRODUCTION

The conventional wisdom as to why some Third World countries produce arms while others usually do not emphasizes factors such as economies of scale; arms producers are most likely to be those countries with the biggest militaries and GNPs. Of course there are several "special cases" such as Israel, South Africa and Taiwan—countries which for purely political reasons find it expedient to be somewhat independent of the whims of the major arms suppliers.

Recent empirical analysis of Third World arms production[41] tends to put these issues in a somewhat different light:

1. There is a sharp contrast between the environments in which Latin American arms production takes place and the conditions in which it is present in the rest of the world.
2. The conditions facilitating Latin American arms production seem to have been established largely in the

1960s, and involved the creation, through export growth and external borrowing, of a high import capacity. Presumably, this import capacity was necessary to facilitate the high level of technology transfer, capital equipment, and so on needed to establish an indigenous arms industry.

3. It should be noted that the only new Latin American arms producers between 1969/70 and 1979/80 were Mexico, Ecuador, and Venezuela, all of which were oil exporters whose access to foreign exchange was enhanced during the period.
4. The non-Latin American arms producers appear to be highly dependent on a steady infusion of public external borrowed funds. Overall export and import performance does not appear to be critical in the establishment or maintenance of an indigenous arms industry. Instead, the ability to finance existing current account deficits through publicly guaranteed loans appears critical. It follows that the non-Latin American arms industries may be less viable than those in Latin America.
5. Interestingly enough, for both the Latin American and non-Latin American countries, economic size, per capita income, military capabilities or associated economies of sale in production do not appear to be either a necessary or sufficient condition for undertaking indigenous arms production. Instead, access to foreign exchange presumably required to facilitate imported inputs—both technical and material—for actual arms production appear to be the main factors determining whether arms production will be established and viable over time.
6. Foreign exchange availability by and of itself is a multidimensional factor, and not associated with one specific index such as export growth or inflows of external borrowed funds.

The explanation for these results probably stems from

the fact that Third World arms producers are not yet completely self-sufficient in either the technical or material inputs required for arms production. Instead, the establishment of an indigenous arms industry places high and continuous demands on a country's foreign exchange reserves. This fact has a number of implications for the future:

1. If the above analysis is correct, there should be no new Latin American arms producers in the foreseeable future. Given the poor export prospects for most of the non-producers, together with their high levels of external debt, it is extremely unlikely that any of these countries will have sufficient surpluses of foreign exchange to allocate toward the development of an indigenous arms industry.[42]
2. The situation is somewhat less apparent for the non-Latin American countries, since this group of countries continuous access to publicly guaranteed external capital inflows appears to be critical for the establishment and survival of a domestic arms industry. Clearly however, if the major First World arms producers wanted to restrict the spread of new indigenous production to this area of the world, denial of credits at past levels would be the most efficient way to proceed.

CONCLUSIONS

The results summarized above are suggestive of the importance of economic variables in affecting the pattern of defense allocations and their impact on Third World economies. Perhaps the lack of attention given to economic variables in the past stems from the fact that rather weak relationships exist when these factors are regressed on various aspects of militarization in developing countries as a whole. This is not the case, however, when Third World countries are examined as more homogenous groups.

Here, at least three major groupings have produced

interesting and at times exciting results: (1) Political groupings—the civilian/military dichotomy; (2) groupings based on industrial structure—the producer/non producer dichotomy; and (3) groupings based on relative resource constraint. It should be noted here that analysis of military expenditure impacts or the determinants of the various facets of military expenditures using groupings based on income level (rich versus poor), or geographic location (Africa versus Latin America) does not produce results that are very significant statistically, or interesting conceptually.

In choosing among the three groupings surveyed here, it appears that groupings along civilian/military lines, while yielding some useful insights, do not consistently produce results with as high a level of statistical significance as those obtained on the basis of relative resource constraint or the producer non-producer dichotomy. This applies for the various impacts of military expenditures as well as those factors affecting arms imports, overall military expenditures, and budgetary patterns.

In choosing between the resource constraint and producer/non producer groupings, it appears access to foreign exchange is the common thread accounting for fundamental differences between the Third World countries with regard to both the causes and consequences of military expenditures. The most direct approach at capturing this effect is through the identification and grouping based on relative resource constraint. This fact is borne out by the consistently higher correlation coefficients and the values using the constrained/non-constrained groupings.

In this regard it is clear that past forecasts of world military expenditures that emphasized arms race dynamics or bureaucratic momentum while ignoring resource constraints, produced systematically biased results whenever financial markets and the level of threat perception moved in opposite directions. For example, these models often predict that countries scale down defense expenditures during periods of relatively low external tensions. The major build up of defense

expenditures in the late 1970s and early 1980s in many peaceful (albeit increasingly credit worthy) areas of the world, clearly calls this framework into question.

Given the fact that economic variables appear much more adept (and themselves easier to forecast) than political or threat type considerations at identifying both the impact and the amount of resources allocated to defense, it may be more feasible than previously thought to develop models for predicting and monitoring the various aspects of Third World economic performance associated with changes in military expenditures. The same also extends to anticipating movements in military expenditures and arms imports.

NOTES

1. For an excellent survey of this work see G.T. Harris "Economic Aspects of Military Expenditures in Developing Countries: A Survey Article," *Contemporary Southeast Asia* (June 1988), pp. 82-102.
2. Because the focus of this survey is largely on the contrasting patterns produced by sub-groupings of developing countries, a comprehensive assessment studies treating developing countries as a whole is not presented in the sections that follow.
3. Excellent critical reviews of this literature are given in: Steve Chan, "Military Expenditures and Economic Performance," in United States Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers, 1986* (Washington: ACDA, 1987), pp. 29-38; and Saadat Deger and Robert West "Introduction: Defense Expenditure, National Security and Economic Development in the Third World," in Saadat Deger and Robert West, *Defense, Security and Development* (London: Francis Pinter, 1987), pp. 1-16.
4. Emile Benoit, *Defense and Growth in Developing Countries* (Lexington, MA: Lexington Books, 1983).

5. Charles Wolf, "Economic Success, Stability and the 'Old' International Order," *International Security* (1981), pp. 75-92.
6. This research has been led by Saadat Deger, and is admirably summarized in her: *Military Expenditures in Third World Countries: The Economic Effects* (London: Routledge and Kegan Paul, 1986). See also Robert McKinlay, *Third World Military Expenditures: Determinants and Implications* (London: Pinter, 1989).
7. See for example: P.C. Frederiksen and R.E. Looney, "Impact of Increased Military Expenditures on Mexican Economic Growth: A Preliminary Assessment," *Journal Information-Comercial Espanola* (December 1982), pp. 22-35; P.C. Frederiksen and R.E. Looney "Another Look at the Defense Spending and Development Hypothesis," *Defense Analysis* (September 1985), pp. 205-210; R.E. Looney and P.C. Frederiksen, "Profiles of Latin American Military Producers," *International Organization* (Summer 1986), pp. 745-752; R.E. Looney and P.C. Frederiksen "Defense Expenditures, External Public Debt and Growth in Developing Countries," *Journal of Peace Research* (December 1986), pp. 329-338; and R.E. Looney and P.C. Frederiksen "The Future Demand for Military Expenditures in Argentina," *Arms Control* (September 1986), pp. 197-211.
8. Peter C. Frederiksen and Robert E. Looney, "Defense Expenditures and Growth in Developing Countries," *Journal of Economic Development* (July 1982), pp. 113-126.
9. Peter C. Frederiksen and Robert E. Looney, "Defense Expenditures and Economic Growth in Developing Countries," *Armed Forces and Society* (Summer 1985), pp. 633-646.
10. Robert E. Looney and P.C. Frederiksen, "Defense Expenditures, External Public Debt, and Growth in Developing Countries," *Journal of Peace Research* (December 1986), pp. 329-338; Robert E. Looney, "Impact of Military Expenditures on Third World Debt," *Canadian Journal of Development Studies* (1987), pp. 7-26; and Robert E. Looney, "Economic Factors Affecting Third World Arms Trade," *The International Trade Journal* (Summer 1988), pp. 377-408.

11. Following the classification of Stephanie Neuman, "International Stratification and Third World Military Industries," *International Organization* (Winter 1984), pp. 172-173.
12. Robert E. Looney, "The Political Economy of Third World Military Expenditures: Impact of Regime Type on the Defense Allocation Process," *Journal of Political and Military Sociology* (Spring 1988), pp. 21-30; Robert E. Looney, "Economic Impact of Rent Seeking and Military Expenditures in Third World Military and Civilian Regimes," *American Journal of Economics and Sociology* (January 1989), pp. 11-30; Robert E. Looney, "Militarization, Military Regimes, and the General Quality of Life in the Third World," *Armed Forces and Society* (Fall 1990), pp. 127-139; and Robert E. Looney, "Defense Budgetary Process in the Third World: Does Regime Type Make a Difference," *Arms Control* (1988), pp. 186-202.
13. Robert E. Looney, "Military Expenditures and Socio-Economic Development in Africa," *The Journal of Modern African Studies* (June 1988), pp. 319-326.
14. Robert E. Looney, "Factors Underlying Venezuelan Defense Expenditures, 1950-83: A Research Note," *Arms Control* (May 1986), pp. 74-108; Robert E. Looney, "The Impact of Defense Expenditures on the Saudi Arabian Private Sector," *Journal of Arab Affairs* (Fall 1987), pp. 198-229; and Robert E. Looney, "The Role of Defense Expenditures in Iran's Economic Decline," *Iranian Studies* (1988), pp. 52-83.
15. Robert E. Looney, "The Relative Importance of Internal and External Factors in Effecting Third World Military Expenditures," *Journal of Peace Research* (February

1989), pp. 33-46; Robert E. Looney, "Impact of Arms Production of Third World Distribution and Growth," *Economic Development and Cultural Change* (October 1989), pp. 145-154; and Robert E. Looney, "Economic Factors Affecting the Third World Arms Trade," *International Trade Journal* (Summer 1988), pp. 377-408.

16. Robert E. Looney, "Impact of Arms Production on Third World Distribution and Growth," *op. cit.*, and Robert E. Looney, "A Post-Keynesian Analysis of Third World Military Expenditures," *Working Paper*, Department of National Security Affairs, Naval Postgraduate School (1988).
17. Robert E. Looney, "The Economic Impact of Rent Seeking and Military Expenditures in the Third World," *The American Journal of Economics and Sociology* (January 1989), pp. 11-30.
18. For a recent analysis of this image see Robert E. Looney, "Failure of Argentinean Monetarist Experiments, 1976-82," *Scandinavian Journal of Development Alternatives* (December 1987).
19. Robert E. Looney, "Military Expenditures and Socio-Economic Development in Africa: A Summery of Recent Empirical Research," *The Journal of Modern African Studies* (June 1988), pp. 303-318.
20. The regime types follow the classification given in Ruth Leger Sivard, *World Military and Social Expenditures, 1983* (Washington: World Priorities, 1983), p. 11.
21. Robert E. Looney, "The Political Economy of Third World Military Expenditures: Impact of Regime Type on the Defense Allocation Process," *Journal of Political and Military Sociology* (Spring 1988), pp. 21-30.
22. Robert E. Looney, Militarization, Military Regimes and the General Quality of Life in the Third World: A Research Note," *Armed Forces and Society*, 1990.
23. Robert E. Looney, "Socio-economic Budgetary Contrasts in Developing Countries: The Effect of Alternative Political Regimes," *The Journal of Social, Political and Economic Studies* (Summer 1988), pp. 195-218.
24. Robert E. Looney, "Defense Budgetary Processes in the Third World: Does Regime Type Make a Difference," *Arms Control* (Summer 1988), pp. 186-200.
25. *Ibid.*
26. In addition to the cross-section studies cited above see the country case studies in Robert E. Looney, "Impact of Increased External Debt Servicing on Government Budgetary Priorities: The Case of Argentina," *Socio-Economic Planning Sciences* (1987), pp. 25-32; and Robert E. Looney, "Determinants of Venezuelan Budgetary Patterns, Possible Tradeoffs Between Defense and Non-Defense Expenditures," *Socio-Economic Planning Sciences* (1987), pp. 49-60.
27. Robert E. Looney, "Economic Impact of Rent Seeking and Military Expenditures in Third World Military and Civilian Regimes," *op. cit.*
28. *Ibid.*
29. *Ibid.*
30. For an excellent survey, plus new empirical results on Third World military expenditures, see Alfred Maizels and Machkiko Nissanke, *The Cause of Military Expenditures in Developing Countries*," in Saadat Deger and Robert West, *Defense, Security, and Development* (London: Francis Pinter, 1987), pp. 129-139.
31. Robert E. Looney, "Socio-Economic Environments and the Budgetary Allocation Process in Developing Countries: The Case of Defense Expenditures," *Socio-Economic Planning Sciences* (1988), pp. 71-82; and Robert E. Looney and P.C. Frederiksen, "Economic Determinants of Latin American Defense Expenditures," *Armed Forces and Society* (Spring 1988), pp. 459-471.
32. Robert E. Looney, "Determinants of Military Expenditures in Developing Countries" *Arms Control* (December 1987), pp. 295-324; and Robert E. Looney, "Determinants of Per Capita Military Expenditures in Developing Countries," *Manchester Papers on Development*

(November 1986), pp. 1-21.

33. Robert E. Looney, "Socio-Economic Budgetary Contrasts in Developing Countries: The Effect of Alternative Political Regimes," *The Journal of Social, Political and Economic Studies* (Summer 1988), pp. 195-218.
34. Robert E. Looney, "Budgetary Impacts of Third World Arms Production," *International Journal of Public Administration* (1988), pp. 601-622.
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