Defense, Growth, and Disarmament: A Reply

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In a recent article in this journal, Lipow[1] discusses our 1989 article (LF 1989),[2] which had summarized some of our earlier work on the relationship between defense spending and economic growth in developing countries (LDCs). These studies, labeled as "unconvincing" by Lipow, indicated that defense spending may promote economic growth in the richer LDCs, which consequently might hinder any attempt to disarm. Lipow suggests that we "ignore the possibility that defense outlays could be replaced by development expenditures that will almost certainly generate higher growth rates"[3] and asserts that internal security problems and verification procedures are in any case an even greater obstacle to disarmament. He lists three "troubling problems" with LF 1989: data reliability, financial versus economic costs, and the possibility of a spurious correlation.

As already noted, the primary objective in LF 1989 was to summarize some of our recent research on military spending in developing countries and specifically its effect on economic growth. Our research has spanned nearly a decade and includes numerous papers, six of which are cited in LF 1989. Thus we, in turn, are troubled because Lipow refers to just *one* of these papers—our 1983 (and earliest) study[4]—and ignores the remainder. On the one hand, Lipow describes FL 1983 as "a careful and well-conceived study," and on the other hand as an exercise in "correlation hunting" and "rococo econometrics."[5] We are also puzzled as to why—seven years later—our 1983 study is singled out, especially since most of the issues raised by Lipow were raised by Ball[6] in 1985 and replied to by us[7] in the same year.

FL 1983 extended Benoit's earlier work.[8] Our contribution was to hypothesize that the effect of defense spending on economic growth might be positive for the richer LDCs and negative

for the poorer ones. In other words, LDCs are not homogeneous and should not be lumped together. Using cluster analysis, we split Benoit's sample into two groups and then reestimated Benoit's model for each group. Lipow concludes that our data was drawn "from the same sources as all [?] the other studies dealing with this issue,"[9] and that our results suggested "that no significant relationship existed between defense expenditures and growth among resource-constrained LDCs."[10] First, we used Benoit's data, and second, we concluded that the coefficient for the defense variable in the resource-constrained group was "negative and statistically significant at the 99% level."[11]

A major concern of Lipow is data reliability. Lipow notes that data generally comes from the US Arms Control and Disarmament Agency (ACDA) or the Stockholm International Peace Research Institute. He states that both organizations draw "most" of their data from the International Monetary Fund (IMF). In addition, he believes there is systematic disinformation in the reporting of military expenditures. In recent discussions with officials from ACDA,[12] we were assured that at most 30 percent of their published data were based on IMF statistics. For the remainder, ACDA relies on other agencies—the Central Intelligence Agency and the Defense Intelligence Agency—and their own in-house assessments. Whenever a country is suspected of underreporting military expenditures, ACDA revises the data upward.[13] However, even if a systematic bias did exist, the bias would "wash out" since most studies deal with economic growth over time.

Lipow argues that "defense expenditures, as reflected in the official budgets of militaries, do not always reflect the actual economic costs incurred"[14] and that this gap could further distort our study. By splitting countries into resource-constrained and resource-unconstrained groups, we have explicitly accounted for the *higher* opportunity costs in the former group. We hypothesize that since the resource-constrained group will face higher opportunity costs associated with defense expenditures, *ceteris paribus*, the impact of the defense expenditure on economic growth would be negative. Similarly, the lower opportunity costs in the relatively unconstrained countries are likely to result in a positive impact of military budgets on economic growth.

Lipow's third concern is that the statistical relationship observed in FL 1983 (or Benoit?) might be spurious.[15] He suggests that an additional variable—security threat—might explain the observed correlation. Lipow computed a Spearman Rank correlation coefficient of .489 for 40 of Benoit's 44 countries between GNP growth (a continuous variable) and a (discrete) dummy variable taking on the values from 1 to 4 to measure the security threat. Lipow concluded that (a) there existed a "strong relationship between the presence of external security threats and accelerated economic growth," and (b) that "the results of this Spearman test are not conclusive."[16] Even ignoring the statistical difficulties of rank correlating discrete and continuous variables, if Lipow had been referring to our paper (rather than Benoit) presumably he would have computed the correlation coefficients for our two groups instead of for another subset of Benoit's total sample.

We of course recognized some of the problems inherent in Benoit's study (small sample and early time period), and subsequently have conducted further statistical tests with larger samples, more recent data, and different economic models. These studies, which are ignored by Lipow, confirm for the most part the results of our 1983 study especially regarding the effect of military expenditures on economic growth in the richer LDCs.[17]

Lipow concludes by suggesting various alternatives to military expenditures to promote economic growth. For example, he asserts that "civilian investments are *likely* to generate higher economic returns," and that "the military's role as trainer and educator *could* also be fulfilled by civilian institutions," and that "if the savings derived from disarmament are channeled into realistic and well-managed efforts, growth will *almost certainly* be accelerated" (italics added).[18] We would more than welcome citations of analytical studies to support these speculations. In this regard, we note several recent publications that lend support to our position: on the effect of internal versus external factors on military expenditures,[19] on the role of military versus civilian regimes in economic growth,[20] and on the positive economic growth that arms-producing nations enjoy as compared to non-arms producers.[21] These recent studies refute—or at least cast serious doubt on—Lipow's speculative conclusions.

NOTES

1. Jonathan Lipow, "Defense, Growth, and Disarmament: A Further Look," *Jerusalem Journal of International Relations* 12, 2 (June 1990): 49-59.

2. Robert Looney and P.C. Frederiksen, "Recent Research on Defense Spending and Growth and Implications for Third World Disarmament," *Jerusalem Journal of International Relations* 11, 1 (March 1989): 1-11. Hereinafter referred to as LF 1989.

3. Lipow 1990, p. 49. We describe this possibility and the three ways in which it may happen; see LF 1989, p. 3.

4. P. C. Frederiksen and R. Looney, "Defense Expenditures and Economic Growth in Developing Countries," *Armed Forces and Society* (1983): 633-645. Hereinafter referred to as FL 1983.

5. Lipow 1990, p. 50.

6. Nicole Ball, "Defense Expenditures and Economic Growth: Comment," *Armed Forces and Society* (1985): 291-297.

7. P.C. Frederiksen and Robert Looney, "Defense Expenditures and Economic Growth in Developing Countries: A Reply," *Armed Forces and Society* (1985): 298-301.

8. E. Benoit, "Growth and Defense in Developing Countries," *Economic Development and Cultural Change* (1978): 271-280.

9. Lipow 1990, p. 51.

10. Ibid., p. 50.

11. FL 1983, p. 639.

12. Communication with Mr. Ed Gallick, US Arms Control and Disarmament Agency.

13. This revision is based on arms imports.

14. Lipow 1990, p. 52.

15. Benoit also recognized the possibility that the correlation might be spurious: "A more troublesome possibility was that the simple correlation between growth and defense burdens might be technically 'spurious,' that is it might be accounted for by the action of other factors influencing both growth and defense burdens in such a manner as to bring about their apparent correlation" ("Growth and Defense," p. 273).

16. Lipow 1990, p. 54.

17. See the studies cited in LF 1989.

18. Lipow 1990, pp. 55, 56.

19. E.g., Robert E. Looney, "Internal and External Factors in Effecting Third World Military Expenditures," *Journal of Peace Research* (1989): 33-46.

20. See, e.g., Robert Looney and P. C. Frederiksen, "Consequences of Military and Civilian Rule in Argentina," *Comparative Political Studies* (1987): 34-46, and Robert E. Looney, "The Economic Impact of Rent Seeking and Military Expenditures: A Comparison of Third World Military and Civilian Regimes," *American Journal of Economics and Sociology* (1989): 11-29.

21. Robert E. Looney, "Impact of Arms Production on Income Distribution and Growth in the Third World," *Economic Development and Cultural Change* (1989): 145-153.