

against the benefits that could be gained from a direct investment of resources into industrial development or training. Similarly, the hard currency arms imports that most countries must make to equip their forces represent a drain on possible civilian capital investments (heavy machinery, for example), and can exacerbate balance of payments or debt problems. Finally, even if the "security dilemma" makes conflict resolution difficult, the progress that has been made in creating a "zone of peace" in Europe, and the low levels of conflict between democratic states, suggest that a state's threat environment can be ameliorated, and that the military burden on the economy and society can be reduced.<sup>26</sup>

Although these arguments are all very plausible, the statistical evidence that can be brought forward for them tends to be weak, and perhaps no definitive conclusions will ever be drawn. Most of the weaknesses with quantitative studies arise, however, from *methodological* or measurement problems, not from any weaknesses in the arguments for linkages. The following section will briefly describe the most serious problems associated with formal quantitative studies, in order to highlight the impossibility (and wrong-headedness) of searching for general statistical models to describe complex political and economic relationships.

#### The Problem of Indicators

Overwhelming conceptual and statistical problems with the available data bedeviled these modelling exercises, whether they are concerned with defining military expenditures, development, or "security." Five issues stand out as crucial statistical weaknesses, with an additional five more conceptual problems being important. Most of these have created difficulties for attempts to develop more comparable data, in, for example, United Nations' efforts to encourage the use of a standardized reporting instrument, or the efforts of the development community to go beyond crude economic measures of development. Some of the statistical and conceptual weaknesses highlighted below are exclusive to military expenditures, others represent broader concerns.

First, the *level of openness* in security expenditures is very low. Although recent efforts by multilateral financial institutions to make national accounts more transparency and systematic have borne some fruit, measuring security expenditures in most states remains a tricky exercise. As Nicole Ball points out, states have historically had strong incentives to conceal or manipulate military spending figures, through mechanisms that include double-bookkeeping, extra-budgetary accounts, highly aggregated budgetary

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<sup>26</sup> On the democratic peace argument see Edward Mansfield and Jack Snyder, "Democratization and War," *Foreign Affairs*, 74:3 (May/June 1995), 79-97; and the essays in "Give Democratic Peace a Chance," *International Security*, 19:2 (Fall 1994), 5-125. See also Aaron Wildavsky and Max Singer, *The Real World Order: Zones of Peace, Zones of Turmoil* (Chatham, N.J. : Chatham House, 1993).