

The interplay of political considerations (value ratio) and technical considerations (inspection effectiveness) is an important theme running through all of the conclusions of this study.

4.2 *If the quality of inspections is high, then fewer of them are needed — unless each state's inspection quota is prespecified.*

This conclusion refers to how the IAEA spreads its inspection resources over different states. If there are high quality inspections (i.e. if inspection effectiveness is high), then fewer inspections are needed, provided the IAEA may choose which state to inspect just prior to the actual the inspection. This conclusion reflects the fact that it is not inspection that deters violation, it is the threat of detection. Thus, the possibility of a very effective inspection is as much of a deterrent as the certainty of a less effective inspection. The precise levels of inspection effectiveness at which this phenomenon arises are determined not by technical (effectiveness) considerations, but by the political considerations embodied in the value ratio.

The budgetary implications of this conclusion are important. If, using high quality personnel and equipment, the IAEA can ensure that all of its safeguards operations are highly effective, then fewer of them are needed. However, to profit from this principle, the IAEA must be able to schedule its inspections not according to any predetermined and known pattern, but in an unpredictable way governed by likelihoods reflecting political considerations (states' value ratios).

4.3 *Technical and political considerations at both declared and undeclared sites should determine the allocation of inspection resources between them.*

This conclusion bears on how the IAEA should allocate its inspection effort within a state. Because a program designed to detect and identify undeclared facilities and activities is essentially independent of a safeguards program designed for declared facilities, the IAEA must establish both capabilities wherever appropriate. Sufficient levels of inspection effectiveness of both types must be maintained to deter all violations.

In principle, this problem is similar to the simultaneous inspection of two states. The political factors determining a state's incentive to engage in these two forms of violation may differ, so the threshold effectiveness levels may be quite different. Likewise, the two types of inspection may have different efficiency characteristics, complicating the question of how best to