

I cite this as one kind of situation where they are not using discount rates. They say it is implicit. This may or may not be true.

Unless they have some more systematic approach to it it seems to me it would be very difficult to say in a case of this type that it is implicit in all of these decisions.

Chairman PROXMIRE. My time is up. But I would just say that if it is implicit, let's make it explicit. After all if they can say they don't know what the benefits of space exploration are then maybe we had better forget about it. They should be able to make an attempt at quantification. If we don't have some kind of objective measurement in these areas, it just means we are pushing money out in the hope that maybe it will do some good. We don't know what good it will do and we can't even make an estimate.

If the Defense Department, with all of the great problems involved there, and the enormous amount of money, in determining cost effectiveness and so forth can do it as widely as they do it, it seems to me that space and other agencies that make investment programs should do it, that they should certainly make their implicit findings explicit so that we know what we are doing.

Senator Jordan?

Senator JORDAN. Thank you, Mr. Chairman.

Mr. STAATS, you have made a very fine presentation of a complicated subject here this morning and, as you pointed out, and rightly so, there are a variety of systems in use in implementing a discount rate by some agencies, and other agencies use none whatever.

In your report you mentioned explicit and implicit discount rates. Can you point out the difference between the two? You have touched on it here in your exchange with the chairman but I think we need to understand that a little more fully. Will you elaborate on that?

Mr. STAATS. If I may, Senator Jordan, turn to Mr. Rathbun on this question. He is far more familiar with this, and I am sure he can give you a better answer.

Mr. RATHBUN. With respect to the implicit rate, there are a couple of points that are completely clear. One is that if an agency does not discount in any sense but simply adds up the total costs and total benefits, the implicit rate is zero. They are not discounting in any way, shape, or form.

At the other extreme, if an agency makes a decision on the basis of costs in the first year, makes decisions on the basis of costs and benefits in the first year, then the implicit discount rate is 100 percent, because this agency is ignoring all future costs and benefits.

In between these two extremes we have, of course, a host of implicit rates, and the implicit rate in this middle ground is the rate that makes the present value of costs and benefits over the full life of the program equal to the costs and benefits over the period used by the agency in making a decision. In other words, if an agency makes decisions on a weapons system, for example, that has an actual life of 20 years, but the agency makes the decision and evaluates the weapons system on the basis of 5-year costs, that is, on the basis of what happens during the first 5 years, then the implicit discount rate is the rate that would make the present value of costs and benefits over the 20 years equal to the costs and benefits over the 5-year period used by the agency in evaluating the program.