

of course, we know that none of the Government investments are absolutely risk free, and many of them are quite risky.

Could you gentlemen describe the procedures by which Government analysts could make these explicit allowances for risk and uncertainty in benefit-cost streams?

I take it you have to do that—at least Mr. Harberger does—because Mr. Harberger made the assertion, as I recall, that we should have a single discount rate for all projects. If you do that, obviously, you are assuming that they all have the same risk or that you are building that into your benefit and cost systems in arriving at the figure.

Mr. HARBERGER. Yes.

Chairman PROXMIRE. How do you do it?

Mr. HARBERGER. I think it is possible, and probably the most feasible way to deal with the problem is to try to identify the considerations governing the risk premia that prevail in the private sector of the economy. We have some excellent studies which show that the risk premia on corporate bonds in the private sector can be fairly closely predicted on the basis of such items as the debt-equity ratio of the corporation and the variability of the earnings of the corporation and the general financial stability of the corporation. What we need to do is try to get counterparts of these, to say for a particular Government investment, whether it is like a public utility investment in terms of its underlying riskiness, or whether it is like a uranium prospecting investment. Then we can make an appropriate risk adjustment for each particular project.

An alternative would be to make a sort of standard risk premium for all Government investments on the ground that the Government has a widely diversified portfolio, and to sort of incorporate, let us say, the average risk premium on all private investments on top of Government risk-free rate in order to arrive at the rate of discount to be used to evaluate Government projects.

Chairman PROXMIRE. You see, so much of this Government activity is different than our experience in the private sector. For example, how do you determine the risk element in providing Federal scholarships for higher education, for instance? Here is something where we think a rate of return is high, but we can provide so many that maybe we get to a point where we decide that it is not wise to invest more in that field but in some other field on the one hand.

Headstart is another example where it seems to me it would be very hard to compute the risk factor. Even the water resources programs, where you have tremendous technological developments in saline research on the one hand and atomic research on the other.

What do you do about this kind of thing? Can you really arrive at a figure, or do you have to take some kind of overall judgment and just apply it?

Mr. HARBERGER. I suspect that at the moment the latter would be the course of prudence. Practically speaking, I would say if the Government were to move from present practice to simply incorporating a risk-free rate in all its decisions and not making any allowance for risk, there would be a tremendous improvement in the picture. It would be still better to use an appropriately calculated risk-free opportunity cost plus a general blanket across-the-board allowance for risk in the