Mr. LEVINE. I am not sure, either, Mr. Chairman, but the extension of a benefit for 100 years at 6 percent, the hundredth year is still not terribly important. I think we can design the mechanical system, the mathematical system, to take account of what we believe to be the true preference structure. All I am suggesting here is that for our kind of program, complex as it is, partly economic, partly noneconomic as it is, perhaps the discount rate should be looked at in a different way. It might come out numerically similar or numerically different, depending on what the true preference structure is. But I am not sure that the opportunity cost discount rate is the proper one. That is the note I would like to end on.

(The prepared statement of Mr. Levine follows:)

PREPARED STATEMENT OF ROBERT A. LEVINE

OEO, and particularly my office which has the cost/benefit analysis function, has been concerned with such analysis and associated discounting questions for several years. In the recent past, members of my staff have conducted four studies, three of which may be categorized as Benefit-Cost studies and the fourth, similar in purpose, as a Cost-Effectiveness study. These studies were of the Job Corps, Upward Bound, a Family Planning Program, and a comparison of Upward Bound, Follow Through and Head Start. I will use material from two of these studies as examples in my discussion.[1]

However, I should emphasize that to date the question of the discount rate *per se* has not been a critical one at OEO. The simple truth is that the study of human resources and the quantification of benefits derived from programs involving such investment is in its infancy. The really big problem we are concerned with now is that of pure measurement of benefits and cost in human investment programs; and until we have good benefit and cost figures, the discount rate is not so important. Great sophistication on discount rates is really not needed in human resource problems until one has developed sophistication on the cost and benefit side.

Let me give an example. In many ways, training programs are the easiest of human investment programs to measure. Yet, even here the practical problems are staggering. It is simple to specify exactly what we want to measure in a manpower program. Essentially the individual can anticipate some level of income before training. We expend money in his training (the cost) and thus expect an increase in his income. The difference between his income before training and after training represent the benefits. But how do we measure them? Does his last pretraining wage serve as a good proxy for his future income stream were he not trained? Does his first post-training wage become his future earnings after training? Frankly, there is much disagreement here. How can we measure these benefits?

And, if the questions are hard in the training field, one can imagine the problems in programs working with very small children, with a Community Action Program or with criminal rehabilitation. However, until we can measure these kinds of benefits and the relevant costs with greater sensitivity, extreme sophistication in assigning discount rates is not a terribly important problem.

In fact, we have substantial hesitance about the extent to which human resource programs can be compared to physical resource programs on the basis of benefit-cost analysis. This hesitance is in part due to the difference in sophistication and accuracy associated with measuring the benefits of these programs. It is also due to the large "consumption" element associated with human resource programs.

The benefits which accrue from a program are twofold: (1) those which yield an economic return; and (2) those which satisfy tastes and preferences. For convenience, we call these different types of benefits, investment and consumption

[1] The two studies are: ***Benefit/Cost Estimates for the Job Corps*** by Glen G. Cain and ***Comparison of Head Start, Follow Through and Upward Bound*** by Bette Mahoney and Lewis Rosen. Mr. Cain performed the study of the Job Corps while on a year's leave from the University of Wisconsin to the Research and Plans Division in my Office. He is presently, as he was before he joined my staff, a member of the staff of the Department of Economics and Institute for Research on Poverty at the University of Wisconsin. Mrs. Mahoney and Mr. Rosen are presently Economists on my staff.