ferent positions may be adopted with respect to the rationale for the adoption of a discount rate.

The first rationale is one that retains the notion of opportunity cost; it looks on the discount rate applied to Government programs as reflecting the cost of the funds withdrawn from the economy. However, there are two variants of this approach—one says, simply, we ought to look at the opportunity cost in terms of funds withdrawn from investment in real physical capital. It assumes that all resources used would have been invested. A variant of this approach, somewhat more complex, states the problem more broadly. It notes that funds used by Government programs are withdrawn not only from investment in real physical capital, but also from consumption. Its proponents would argue the appropriate rate is a weighted average of the two, with the weights determined by the impact on private spending of Federal taxes and borrowing required to fund Federal program activities.

A radical departure from the first two concepts is one which rejects the judgment of the private market as a basis for determining the discount rate and which holds that the discount rate ought to be a tool of policy and should specifically reflect governmental objectives. One of the objectives referred to most often is concern for future generations, who cannot express their desires in the private market. Another one is concern for growth, not simply for the income consequences of growth in the economy, but concern for the broader social consequences of being in an expanding economy with its greater possibilities for mobility and relatively painless change.

Still another and quite distinct concept for determining the discount rate is the cost to the Federal Government of borrowing. This has been offered as a rationale in the General Accounting Office survey that has been presented to this subcommittee. In this version, the rate is determined by the cost of borrowing plus the income taxes forgone by the Government. In effect, this concept would reflect the revenue and spending impact of Government borrowing. It is a budgetary concept of the discount rate. It would be appropriate, I might add, if one viewed the Government as having the primary objective of maximizing its net worth, as economists argue private firms do.

Let me turn now from the alternative rationales for determining the discount rate to some considerations of the way in which discounting fits into public investment decisions.

First, given the complex circumstances under which Government decisions are made, I think there is a strong argument for looking not only at some overall aggregative measure of the costs and benefits of Government programs, but also for looking at their year-by-year cost and benefit implications. We would not need to do this if the Government were free to borrow or lend, if it were not subject to specific budgetary constraints. But given the actual environment in which public investment decisions are made, there is useful information in a year-by-year look at the costs and benefits. This does not, however, get at the question of how we evaluate costs and benefits nearer in time as opposed to those in the more distant future. To do that we need to develop a present value concept by applying a discount rate.

I might mention at this point that neither in my paper nor in these remarks have I covered the notion of the internal rate of return. I believe that there are problems in the application of that concept, and I would be glad to discuss it if that were felt to be desirable.