

ECONOMIC SCENE

Pentagon pay plan shows that it doesn't always pay to take the money and run.

By ALAN B. KRUEGER

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SUPPOSE your employer hands you a pink slip and offers you a choice: an annual payment of \$8,000 a year for 30 years or a lump sum of \$50,000 today. Which would you choose?

This is not just a hypothetical exercise. When it downsized in the early 1990's, the Defense Department offered many military personnel a similar choice. The military also provided pamphlets and counseling to explain how to make the choice wisely. To the surprise of most economists, the affected personnel rarely followed the military's sound advice.

The decision should depend, of course, on how much one values money received today versus tomorrow. A bird in the hand is worth more today than tomorrow, but how much more? The difference between the value an individual places on a dollar received today as opposed to a year from now is called the discount rate.

Standard economic theory says that if capital markets work perfectly, people will borrow or lend until their discount rate equals the market rate for borrowing or lending. Someone with a low discount rate will save money and accumulate interest; someone with a high discount rate will borrow and accumulate debt. This should continue to the point where their personal discount rates equal the market rate.

Thus, with some justification, the military's pamphlet provided calculations of the present value of the annuity payment using a 7 percent discount rate, the interest rate on money market funds at the time. If the annuity's present value exceeds the value of the lump sum, the annual payment is a better deal.

Capital markets are not perfect, so different people have different discount rates. Someone who is unable to borrow, perhaps because of a bad credit rating, is likely to have a higher discount rate and therefore take the money and run.

Mounting evidence indicates that most people put excessive weight on a bird in the hand. That \$8,000 annual payment is worth more than \$106,000 if future income is discounted at 7 percent a year -- more than double the value of the lump sum. If the discount rate is 10 percent, as high as the interest rate on 30-year fixed-rate mortgages has been the last decade, the promised \$8,000 payment is still worth \$83,000. The annual payment is a better deal for anyone who can borrow from a bank.

Yet when the military offered essentially this package, three-quarters of enlisted personnel selected the lump sum, according to an article by John Warner of Clemson University and Saul Pleeter of the Defense Department in the latest issue of *The American Economic Review*. The authors also examined a number of other separation packages. The break-even discount rate -- or rate that makes the lump sum and annuity payment equivalent -- varied from 17 to 20 percent, depending on years of service and salary. Over all, 92 percent of enlisted personnel and 51 percent of officers chose the lump sum.

Because the government could borrow at 7 percent at the time, Mr. Warner and Mr. Pleeter calculate that the Treasury saved \$1.7 billion by offering the lump sum option.

Using a sample of 65,000 departing members of the armed forces, they estimate that the average personal discount rate, taking taxes into account, exceeded 25 percent. Discount rates were higher for the less educated, the young, minorities and those with dependents; they were lower for officers.

Other studies have found that people have high discount rates outside the military as well. What makes the Warner-Pleeter study unique is that they looked at a situation in which large sums were offered to people who made actual, not hypothetical, choices. Moreover, subjects were provided advice that should have discouraged them from taking the lump sum.

Why are personal discount rates so high? An idea gaining currency among economists known as hyperbolic discounting is that individuals use a larger discount rate for shorter time periods. That is, a sum that will be received in 19 years is valued the same as a sum that will be received in 20 years, while money that will be received next year is highly discounted compared with money received today.

The Warner-Pleeter study, however, found little evidence for such telescopic behavior. At a given break-even discount rate, the length of time over which benefits are paid is unrelated to the likelihood of choosing the lump sum.

For whatever reason, people act as if they have very high discount rates. Recognition of this fact helps to explain a number of other phenomena.

For example, it is not surprising that the public supports policies that could produce a budget deficit, like a tax cut. High discount rates also help explain the tepid support for public investments, like child care or inner-city education; people are too impatient to wait for the returns when given the opportunity for an immediate tax cut.

The public's penchant for holding high credit card debt -- more than \$6,000 per household with a credit card -- at interest rates near 15 percent a year is also consistent with high discount rates, as are low savings rates. (Indeed, one wonders why the government, which borrows at 5 percent, doesn't offer a credit card to every man, woman and child at an interest rate of, say, 10 percent. This would help reduce the debt and quench individuals' thirst for fast cash.)

If individuals use excessively high discount rates for personal decisions, how should society discount the future costs and benefits of government programs? A paper by Martin Weitzman in the same issue of *The American Economic Review* provides a novel answer: he asked 2,160 economists which discount rate the government should use to evaluate long-term environmental projects, after accounting for inflation. The median response was 3 percent; 90 percent reported a rate from 2 to 9 percent -- substantially below the personal discount rate implied by the public's decisions. Professor Weitzman suspects the experts report a lower rate because they take into account subtle relevant factors, like the government's ability to borrow at low rates and expected changes in technology. In their personal behavior, the experts may be as impatient as everyone else.

A lower discount rate makes projects with big initial costs but long-term benefits, like environmental cleanups, more desirable. Professor Weitzman further shows that disparity in discount rates among experts -- not to mention the public at large -- should lead the government to use a lower discount rate for longer-time horizons because of the wonders of compound discounting at different interest rates. Such a policy would lead to greater public investment in the environment and education, for example.