

percent, others yielding 7 percent and still others yielding 8 or 9 percent. Why do not all investors forego the 6-percent opportunities in favor of those yielding 9 percent? The answer is obviously that some investors do precisely that, but others regard the 9-percent bonds as too risky for their taste. And those who invest in both classes of bonds will at the margin be indifferent between the two investments.

This leads me to introduce the concept of the supply price of capital funds. When businesses seek additional capital, they do not willingly raise it from high-cost sources when lower cost sources are available; they instead try to obtain their funds in the cheapest way possible. Yet some businesses have to pay very handsome interest rates on borrowed funds, and to hold out prospects for high rates of return on any equity capital they raise, while others can issue debt at lower rates and equity at lower expected yields.

In order to pay the supply price of capital, business has to earn more than that, because the yield that investors receive is net of business taxes.

The supply price of debt capital to a firm might be 7 percent, and that of equity capital 8 percent, yet in order to pay these rates, the firm might have to earn 15 percent on its investment. To see this, suppose an investment of \$1 million, financed 70 percent by equity and 30 percent by debt. The possible outcome of such an investment in a typical year might be:

Gross-of-tax income accruing to additional capital.....	\$150,000
Less additional property taxes paid on the new assets.....	17,000
Less corporation taxes paid on additional equity incomes.....	56,000
Equals income from new investment, net of business taxes.....	77,000
Which breaks down into:	
Interest on additional debt ($0.07 \times 300,000$).....	21,000
Plus net income from additional equity ($0.08 \times 700,000$).....	56,000

In order to pay an average supply price of capital equal to 7.7 percent, this firm must earn a 15-percent return.

Suppose for the moment that this was—highly unrealistically, but useful as an implifying assumption—the only investment displaced by the Government's borrowing an additional \$1 million at a rate of 5 percent. The rate of return on the displaced investment is 15 percent, but the true opportunity cost of the additional funds is not 15 percent but, in this example, 13.2 percent. This result is obtained as follows:

Actual interest cost paid by Government on new debt.....	\$50,000
Taxes forgone on income from displaced investment:	
Property taxes.....	17,000
Corporation taxes.....	56,000
Personal income taxes.....	9,000
Total opportunity cost.....	132,000

Only the personal income tax component of this opportunity cost calculation remains to be explained. This is due to the fact that the income, net of business taxes but gross of personal taxes on the displaced investment was \$77,000, and this is replaced by interest income on Government bonds of \$50,000. Assuming a marginal personal tax rate of $33\frac{1}{3}$ percent, there is involved in the displacement a loss of personal income tax revenue equal to \$9,000—equals one-third of \$27,000.