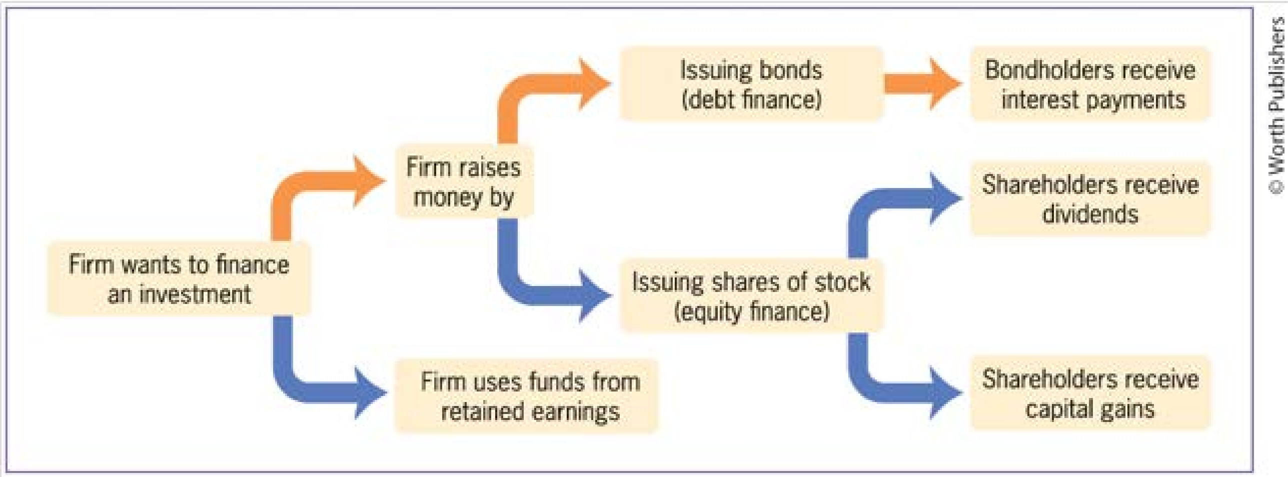

FIGURE 24-1 Sources of Corporate Finance • If a firm wants to finance an investment, it can either use its own retained earnings or raise new funds from the capital market in one of two ways. The first is to issue bonds that pay bondholders periodic interest payments (debt finance). The other is to issue ownership (equity) shares that pay shareholders either through dividends or through capital gains earned on increases in the value of the firm (equity finance).

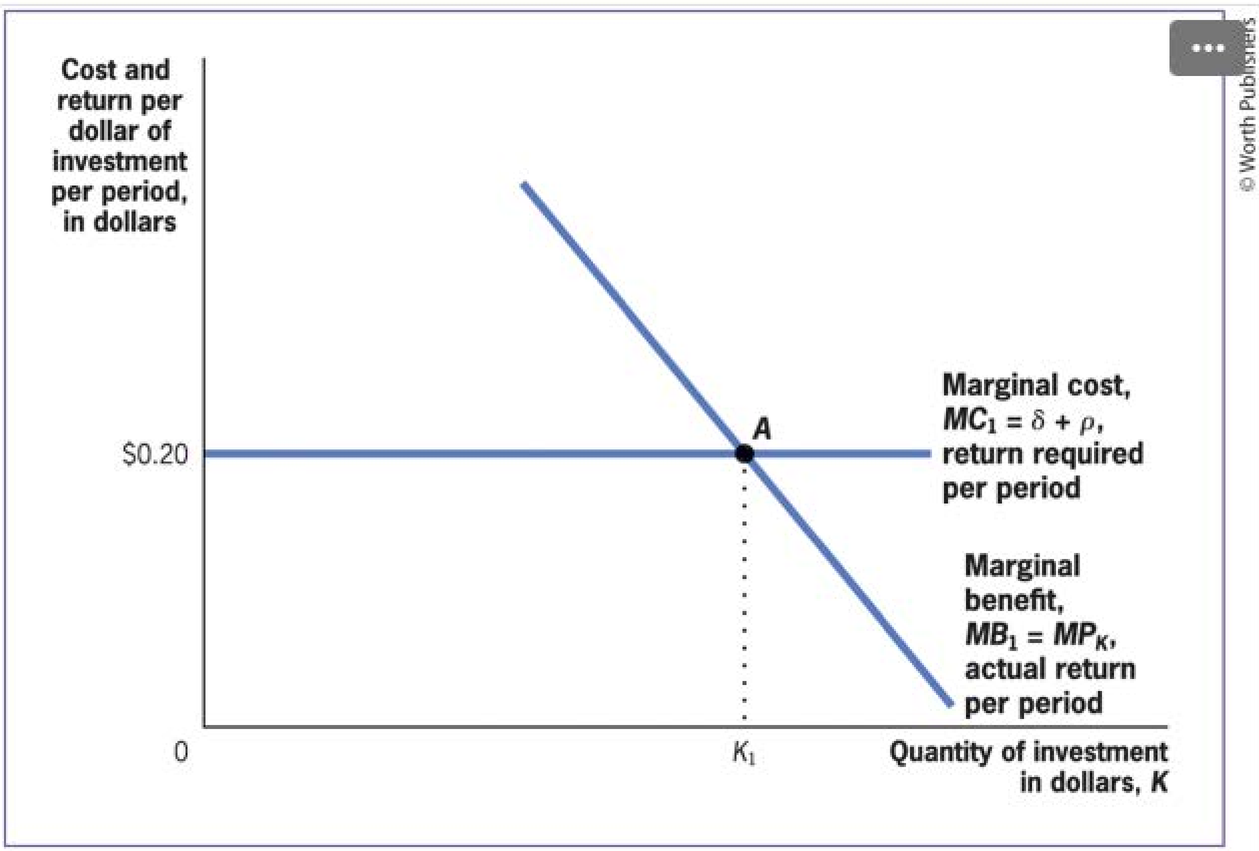

FIGURE 24-2 Investment Decisions with No Corporate Tax • With no corporate tax, the firm chooses its investment level by equating the marginal benefit of an additional dollar of investment with its marginal cost. The marginal benefit (MB_1) is equal to the actual return per dollar of investment, the marginal product of capital (MP_K). The marginal cost is equal to the required return per dollar of investment, the sum of depreciation (*d*) and financing costs (*r*). This equality initially occurs at point *A*, with investment level K_1.

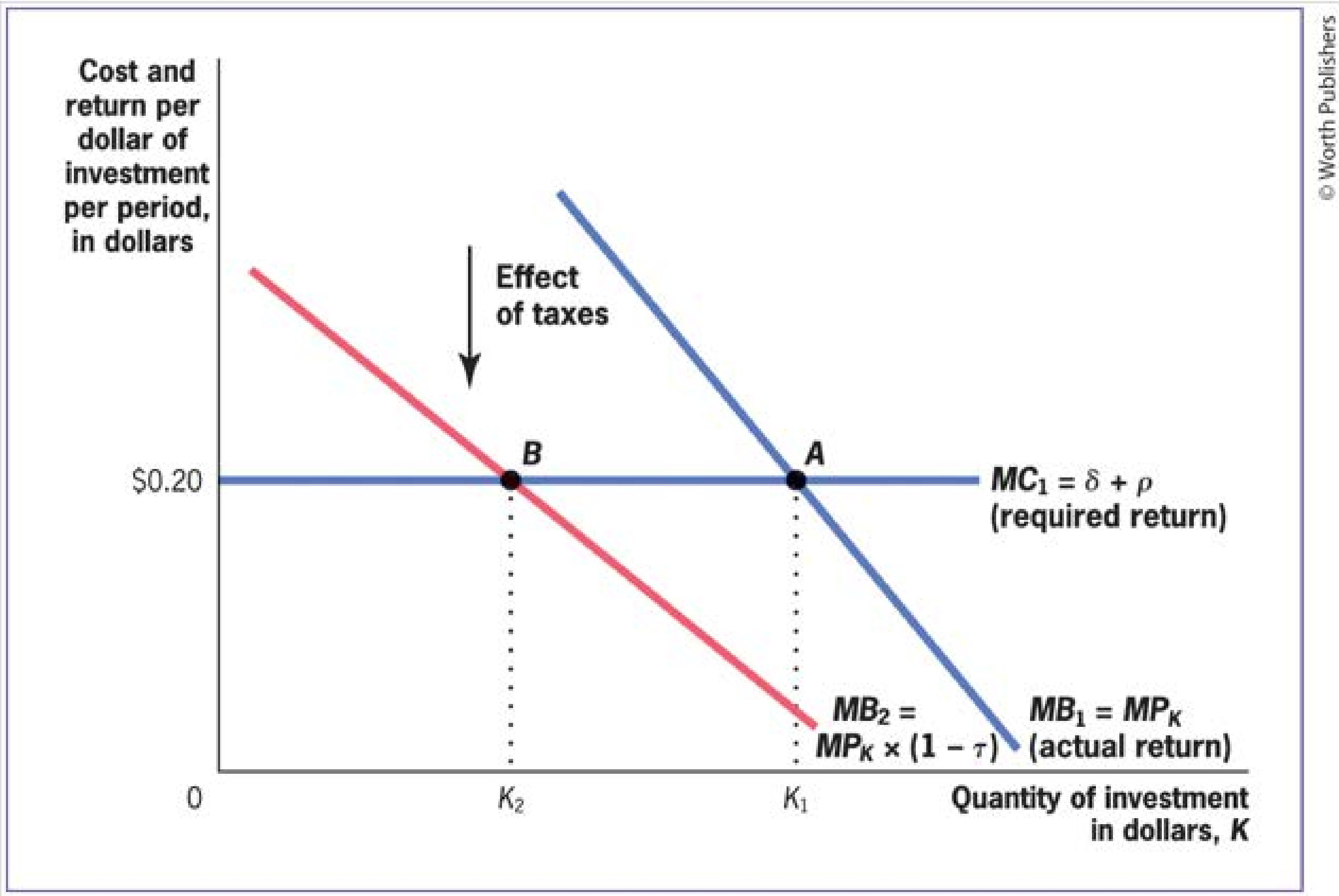

FIGURE 24-3 Investment Decision with a Tax on Corporate Income • Taxing corporate profits lowers the benefits of investment to $MP_K \times (1 - \tau)$, so that the marginal benefit curve shifts to MB_2. The firm lowers its investment, moving to point B, and a lower level of investment, K_2.

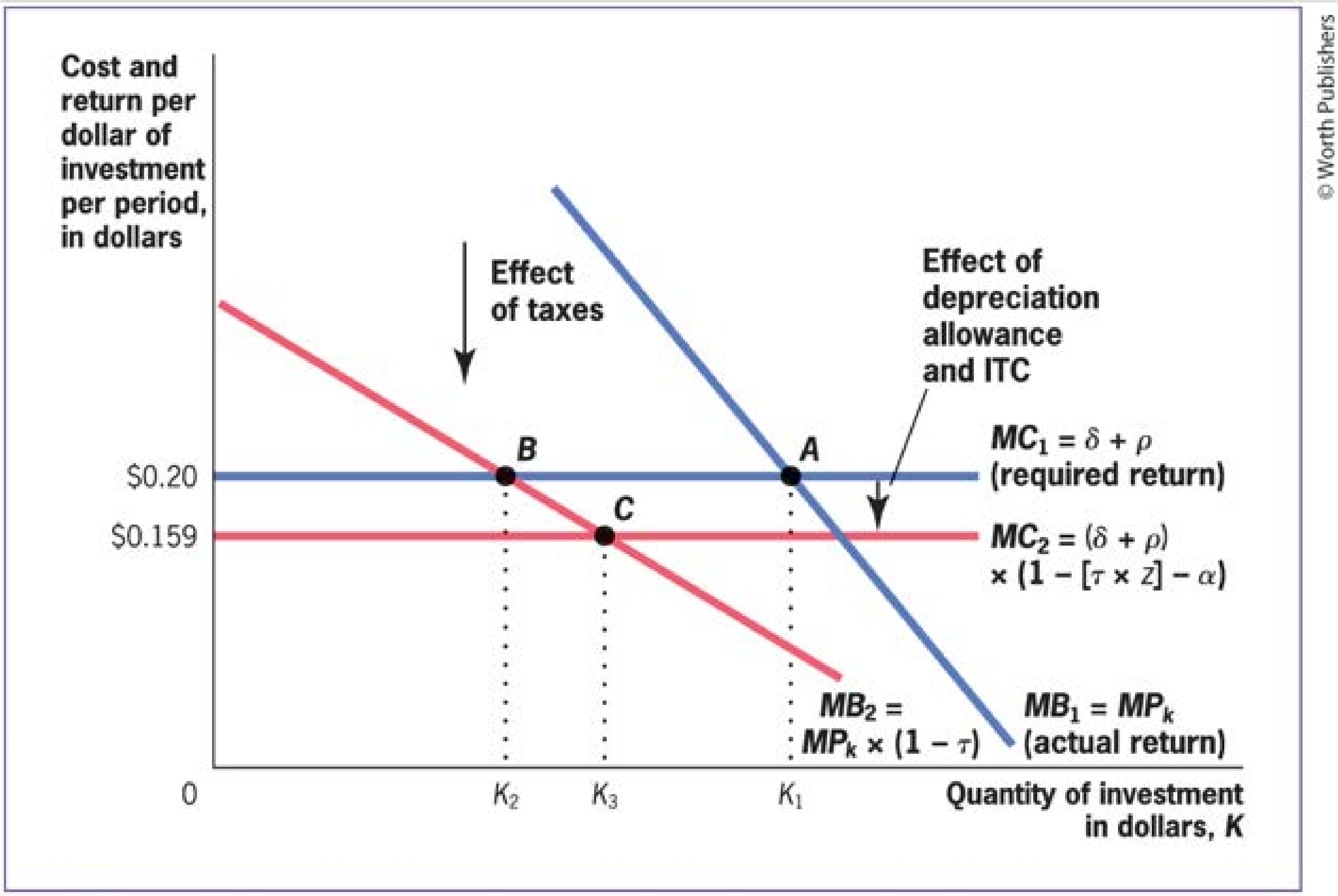

FIGURE 24-4 Investment Decisions with Depreciation and the ITC • ITC deduction of depreciation allowances and the existence of an investment tax credit (ITC) lowers the costs of investment from $(\delta + \rho)$ to $(\delta + \rho) \times (11[\tau \times Z] - \alpha)$, shifting the *MC* curve down to MC_2. The firm moves to point *C*, with investment K_3, which is higher than before depreciation and the ITC but lower than in the no-tax world.

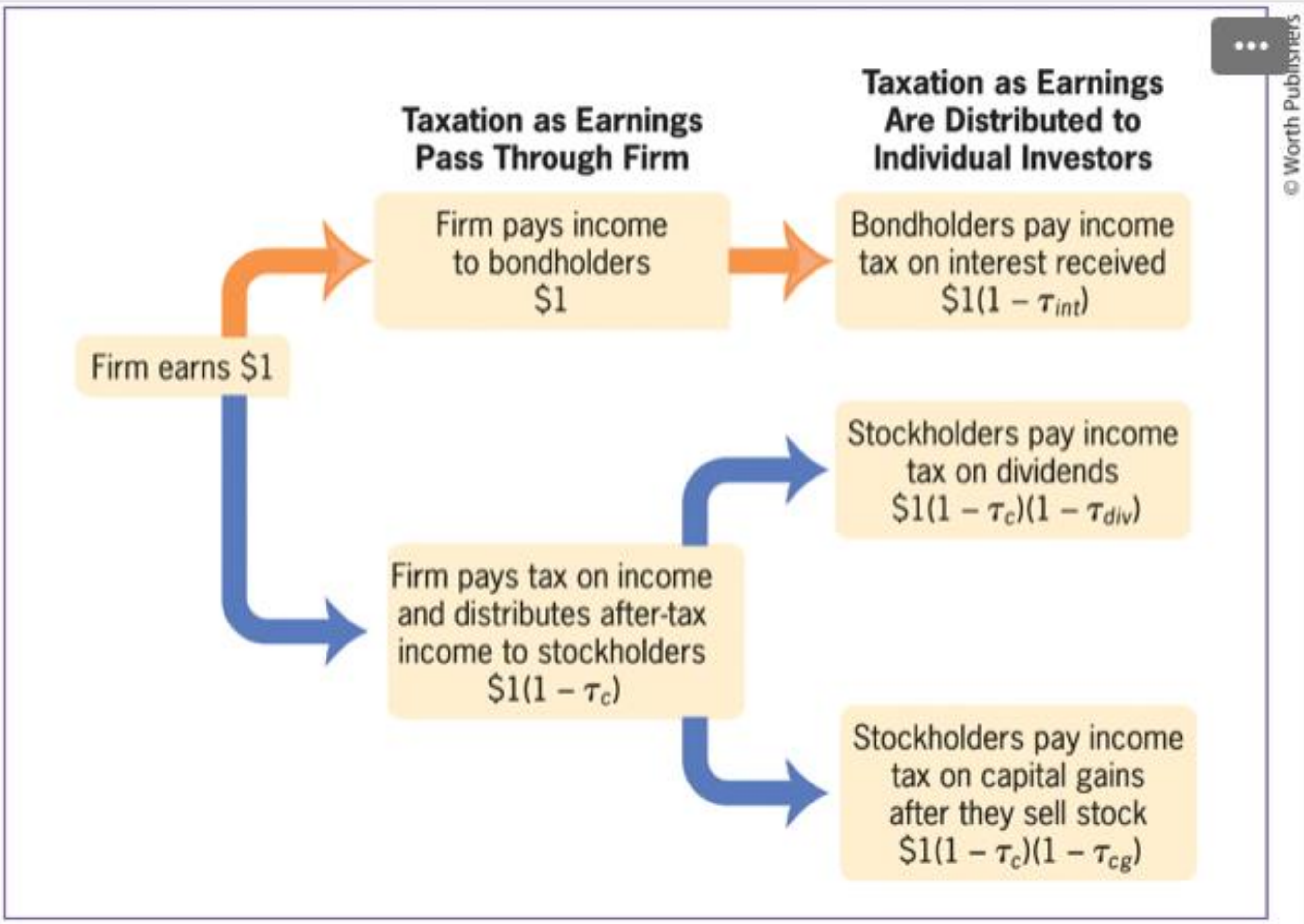

FIGURE 24-5 The Firm's Financing Decision • When the firm wants to finance investment, it can do so either by issuing equity (stocks) or taking on debt (issuing bonds). If the firm takes on debt, then when it earns $1, it pays that $1 to bondholders, but it also subtracts the dollar from its taxable income, so that bondholders get the full $1, on which they pay interest taxes. If the firm issues equity, then when it earns $1, it pays that $1 to equity holders in the form of either dividends or capital gains. In either case, the firm has to pay corporate taxes on the dollar, and individuals then pay either dividend or capital gains taxes when they receive the dollar.

TABLE 24-1 The Debt Versus Equity Conflict

	Share of Financing	Possible Gain from Investment	Possible Loss from Investment	Expected Return from Investment	Should the Firm Take the Risk?
Equity holders	\$1 million	\$3 million	\$2 million	\$0.5 million	Yes
Debt holders	\$5 million	0	\$10 million	−\$5 million	No
Equity holders	\$5 million	\$3 million	\$10 million	−\$3.5 million	No
Debt holders	\$1 million	0	\$2 million	−\$1 million	No

In the top panel, equity holders control only $1 million of the firm's finances, and debt holders control $5 million. The investment under consideration has, from the equity holders' perspective, a potential gain of $3 million and a potential loss of only $2 million, so that the expected return is positive, and the investment will be made. However, this is a mistake from the debt holders' perspective because they have no gain and an expected $5 million loss. When equity holders control $5 million of the firm's assets, as in the bottom panel, the equity holders will not want to undertake the risky investment.