The Cost of Capital, Corporation Finance and the Theory of Investment

Franco Modigliani and Merton H. Miller

The American Economic Review, Vol. 48, No. 3 (June 1958), 261-297

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December 5, 2018

Main Findings: Effect of financial structure on firm value & cost of capital

In a perfect capital market:

1. Market value of firm and average cost of capital
   - Market value of firm is independent of its capital structure and given by capitalizing the expected return at the average cost of capital
   - Average cost of capital is independent of capital structure and equal to the cost of capital of a purely equity-financed firm (even though debt is "cheaper")
   - Only the risk of the assets of the firm matters for cost of capital, but not financing structure
2. Yield on common stock
   - Expected rate of return on common stock is a linear (increasing) function of leverage (debt/equity-ratio)

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3. Extension: Interest rate on debt increases with leverage of the borrowing firm
   - Average cost of capital from all sources still independent of leverage
   - Relation between common stock expected yield and leverage no longer strictly linear

Main Findings

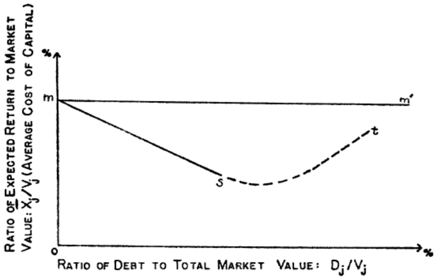

Figure 1

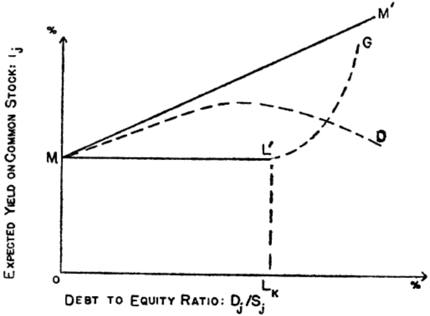

Figure 2

Main Findings and Further Questions

4. Extension: Corporate profit tax with deductible interest payments
    - Average cost of capital decreases and firm value increases when debt ratio rises
    - Difference in cost is only due to the tax effect and amounts to the tax on interest payments
5. Implications for investment decisions
    - Investment opportunity should be undertaken if and only if its rate of return is at least as high as the average cost of capital
    - Type of instruments used to finance investment is irrelevant to the question whether or not the investment is worthwhile

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Further Questions:

- What about empirical evidence?
- How valid is the arbitrage argument (individuals & corporations borrow at same rates)?
- What happens if bankruptcy costs are considered?