

Chapter

17

Multinational Cost of Capital and Capital Structure



Capital Structure and MNCs

- Capital structure refers to the amount of debt vs. equity that a firm is willing and able to maintain as capital on its balance sheet without being overly leveraged
- Certain countries, like those in East Asia, allow companies to be more leveraged than those in the EU or the United States
- MNCs take advantage of those differences to leverage their overseas operations to enhance returns to equity holders.

Cost of Capital and MNCs

- Cost of capital is the weighted cost of equity and debt where the weights reflect the firm's capital structure
- Cost of equity reflects the opportunity cost for investors in a country and will depend on investment alternatives and risk profile
- Cost of debt is the net interest expense, i.e., net of taxes which vary with country
- MNCs take advantage of differences in interest and tax rates among countries to minimize their cost of debt and capital

Chapter Objectives

- To explain how corporate and country characteristics influence an MNC's cost of capital;
- To explain why there are differences in the costs of capital across countries; and
- To explain how corporate and country characteristics are considered by MNCs when they establish their capital structure.

Cost of Capital

- A firm's **capital** consists of **equity** (retained earnings and funds obtained by issuing stock) and **debt** (bank loans or floating bonds).
- The cost of equity reflects an opportunity cost, while the cost of debt is reflected in the interest expenses.
- Firms target a capital structure that will minimize their cost of capital, and hence the required rate of return on projects.

Comparing the Costs of Equity and Debt

- A firm's weighted average cost of capital

$$k_c = \left(\frac{D}{D+E}\right) k_d (1-t) + \left(\frac{E}{D+E}\right) k_e$$

where D is the amount of debt of the firm

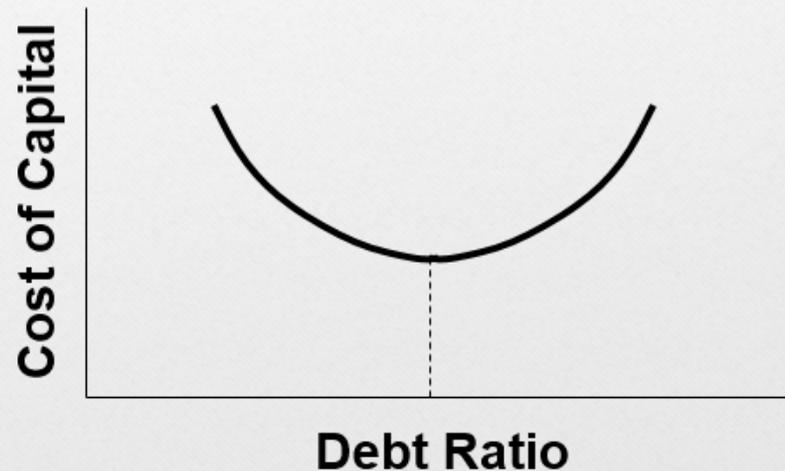
E is the equity of the firm

k_d is the before-tax cost of its debt

t is the corporate tax rate

k_e is the cost of financing with equity

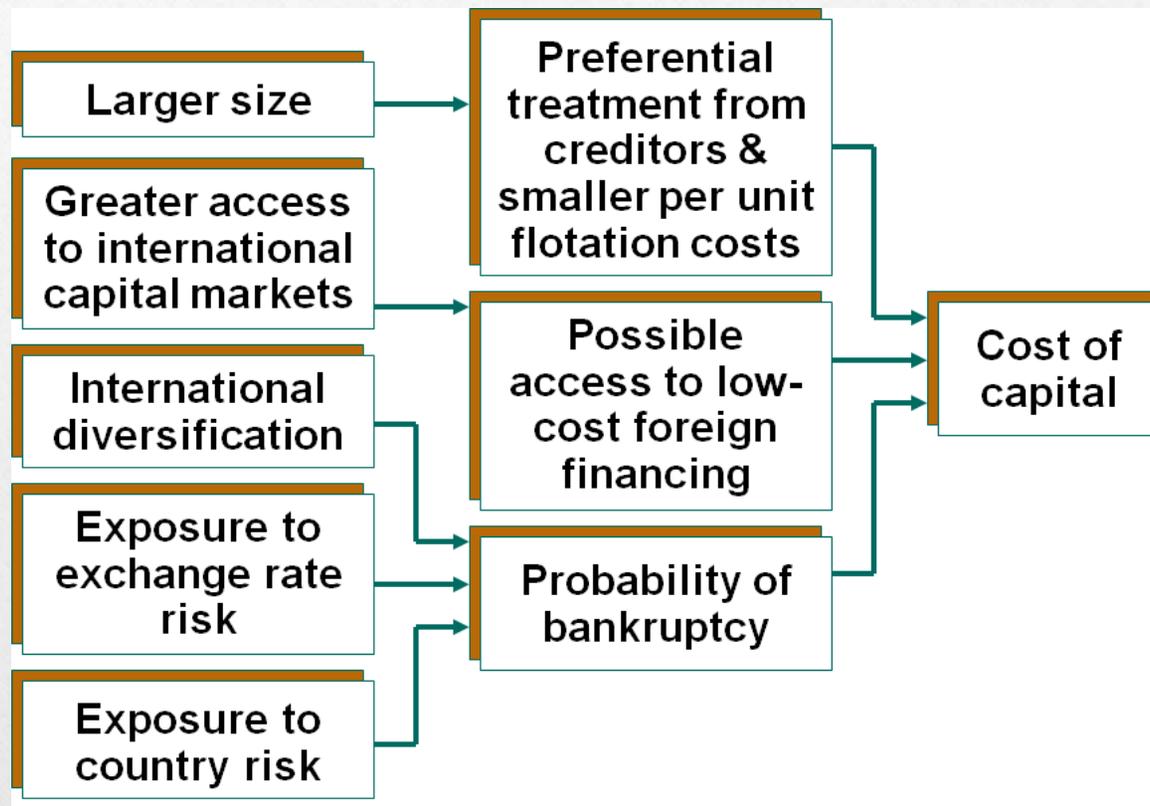
Searching for the Appropriate Capital Structure



Interest payments on debt are tax deductible...

However, the tradeoff is that the probability of bankruptcy will rise as interest expenses increases.

Factors that Cause the Cost of Capital for MNCs to Differ from That of Domestic Firms



Cost-of-Equity Comparison Using the CAPM

- The **capital asset pricing model (CAPM)** can be used to assess how the required rate of return of MNCs differ from those of purely domestic firms.

- CAPM: $k_e = R_f + \beta (R_m - R_f)$

where k_e = the required return on a stock

R_f = risk-free rate of return

R_m = market return

β = the beta of the stock

Cost-of-Equity Comparison Using the CAPM

- A stock's beta represents the sensitivity of the stock's returns to market premium, just as a project's beta represents the sensitivity of the project's cash flows to market conditions.
- The lower a project's beta, the lower its systematic risk, and the lower its required rate of return, if its unsystematic risk can be diversified away.
- MNCs that increase their foreign sales may be able to reduce its stock's beta, and hence reduce the required return.

Cost of Capital Across Countries

- The cost of capital can vary across countries, such that:
 - ① MNCs based in some countries have a competitive advantage (taxes) over others;
 - ② MNCs may be able to adjust their international operations and sources of funds to capitalize on those differences; and
 - ③ MNCs based in some countries tend to use a debt-intensive capital structure.

Country Differences in the Cost of Debt

- A firm's cost of debt is determined by:
 - ① the prevailing risk-free interest rate of the borrowed currency, and
 - ② the risk premium required by creditors in that country.
- The risk-free rate is determined by the interaction of the supply of and demand for funds in a country. It is thus influenced by tax laws, demographics, monetary policies, economic conditions, etc.

Country Differences in the Cost of Debt

- The risk premium compensates creditors for the risk that the borrower may default on its payments.
- The risk premium is influenced by economic conditions, the relationships between corporations and creditors, government intervention, the degree of financial leverage, etc.

Country Differences in the Cost of Equity

- A firm's return on equity can be measured by the risk-free interest rate plus a premium that reflects the risk of the firm.
- The cost of equity represents an opportunity cost, and is thus also based on the available investment opportunities.
- It can be estimated by applying a price-earnings multiple to a stream of earnings.
- High PE multiple \Rightarrow low cost of equity

Lexon's Estimated Weighted Average Cost of Capital (WACC) for Financing a Project

Possible Capital Structure	U.S. Debt (Cost = 6.3%)	Argentine Debt (Cost = 10.5%)	Equity (Cost = 18%)	Estimated WACC
30% U.S. debt, 70% equity	$30\% \times 6.3\% = 1.89\%$		$70\% \times 18\% = 12.6\%$	14.49%
50% U.S. debt, 50% U.S. equity	$50\% \times 6.3\% = 3.15\%$		$50\% \times 18\% = 9\%$	12.15%
20% U.S. debt, 30% Argentine debt, 50% U.S. equity	$20\% \times 6.3\% = 1.26\%$	$30\% \times 10.5\% = 3.15\%$	$50\% \times 18\% = 9\%$	13.41%
50% Argentine debt, 50% U.S. equity		$50\% \times 10.5\% = 5.25\%$	$50\% \times 18\% = 9\%$	14.25%

U.S. risk free rate= 6%; Risk premium on dollar debt provided by U.S. creditors= 3%; U.S. corporate tax= 30%

Cost of dollar denominated debt = $(6\% + 3\%) \times (1 - 0.3) = 6.3\%$

Argentine risk free rate= 10%; Risk premium on Argentine peso debt provided by Argentine creditors= 5%; Argentine corporate tax rate= 30%

Cost of Argentine peso denominated debt = $(10\% + 5\%) \times (1 - 0.3) = 10.5\%$

Cost of dollar-denominated equity = $6\% + 1.5(14\% - 6\%) = 18\%$

Using the Cost of Capital for Assessing Foreign Projects

- When the risk level of a foreign project is different from that of the MNC, the MNC's weighted average cost of capital (WACC) may not be the appropriate required rate of return for the project.
- There are various ways to account for this risk differential in the capital budgeting process.

Using the Cost of Capital for Assessing Foreign Projects

- 1 Derive NPVs based on the WACC.
 - Compute the probability distribution of NPVs (by adjusting cash flow line items) to determine the probability that the foreign project will generate a return that is at least equal to the firm's WACC.
- 2 Adjust the WACC for the risk differential.
 - If the project is riskier, add a risk premium to the WACC to derive the required rate of return on the project.

Using the Cost of Capital for Assessing Foreign Projects

- 3 Derive the NPV of the equity investment.
 - Explicitly account for the MNC's debt payments (especially those in the foreign country), so as to fully account for the effects of expected exchange rate movements.

Lexon's Project: Two Financing Alternatives

	Rely on U.S. Debt (\$20 Million Borrowed) and Equity of \$20 Million	Rely on Argentine Debt (40 Million Pesos Borrowed) and Equity of \$20 Million
Argentine revenue	AP200	AP200
– Argentine operating expenses	–AP10	–AP10
– Argentine interest expenses (15% rate)	–AP0	–AP6
= Argentine earnings before taxes	= AP190	= AP184
– Taxes (30% tax rate)	–AP57	–AP55.2
= Argentine earnings after taxes	= AP133	= AP128.8
– Principal payments on Argentine debt	–AP0	–AP40
= Amount of pesos to be remitted	= AP133	= AP88.8
× Expected exchange rate of AP	×\$ <u>.40</u>	×\$ <u>.40</u>
= Amount of dollars received from converting pesos	= \$53.2	= \$35.52
– U.S. operating expenses	–\$10	–\$10
– U.S. interest expenses (9% rate)	–\$1.8	–\$0
+ U.S. tax benefits on U.S. expenses (based on 30% tax rate)	+\$3.54	+\$3
– Principal payments on U.S. debt	–\$20	–\$0
= Dollar cash flows	= \$24.94	= \$28.52
Present value of dollar cash flows, discounted at the cost of equity (assumed to be 18%)	\$21.135	\$24.17
– Initial equity outlay	\$20	\$20
= NPV	= \$1.135	= \$4.17

The MNC's Capital Structure Decision

- The overall capital structure of an MNC is essentially a combination of the capital structures of the parent body and its subsidiaries.
- The capital structure decision involves the choice of debt versus equity financing, and is influenced by both corporate and country characteristics.

The MNC's Capital Structure Decision

Corporate Characteristics

Stability of MNC's cash flows	More stable cash flows ⇒ the MNC can handle more debt
MNC's credit risk	Lower risk ⇒ more access to credit
MNC's access to retained earnings	Profitable / less growth opportunities ⇒ more able to finance with earnings
MNC's guarantee on debt	Subsidiary debt is backed by parent ⇒ the subsidiary can borrow more
MNC's agency problems	Not easy to monitor subsidiary ⇒ issue stock in host country (Note: there is a potential conflict of interest)

The MNC's Capital Structure Decision

Country Characteristics

Stock restrictions	Less investment opportunities ⇒ lower cost of raising equity
Interest rates	Lower rate ⇒ lower cost of debt
Strength of host country currency	Expect to weaken ⇒ borrow host country currency to reduce exposure
Country risk	Likely to block funds / confiscate assets ⇒ prefer local debt financing
Tax laws	Higher tax rate ⇒ prefer local debt financing

Revising the Capital Structure in Response to Changing Conditions

- As economic and political conditions and the MNC's business strategy change, the costs and benefits of each cost of capital component will change as well.
- An MNC may revise its capital structure in response to the changing conditions.
- For example, some MNCs have revised their capital structures to reduce their withholding taxes on remitted earnings.

Adjusting the Multinational Capital Structure to Reduce Withholding Taxes

Initial Situation



Strategy of Increased Debt Financing by Subsidiary



Strategy of Increased Equity Financing by Subsidiary



Effect of Global Conditions on Financing

Host Country Conditions	Local Debt Financing by Subsidiary	Internal Funds Available to Parent	Debt Financing Provided by Parent
Higher country risk	Higher	Higher	Lower
Higher interest rates	Lower	Lower	Higher
Lower Interest Rates	Higher	Higher	Lower
Local currency expected to weaken	Higher	Higher	Lower
Local currency	Lower	Lower	Higher
Blocked funds	Higher	Higher	Lower
Higher withholding tax	Higher	Higher	Lower
Higher corporate tax	Higher	Higher	Lower

Local versus Global Target Capital Structure

- An MNC may deviate from its “local” target capital structure when local conditions and project characteristics are taken into consideration.
- If the proportions of debt and equity financing in the parent or some other subsidiaries can be adjusted accordingly, the MNC may still achieve its “global” target capital structure.

Local versus Global Target Capital Structure

- For example, a high degree of financial leverage is appropriate when the host country is in political turmoil, while a low degree is preferred when the project will not generate net cash flows for some time.
- ✎ A capital structure revision may result in a higher cost of capital. So, an unusually high or low degree of financial leverage should be adopted only if the benefits outweigh the overall costs.