

Chapter 16 Multinational Capital Structure and Cost of Capital

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Capital structure

> Capital structure

- the proportion of long-term debt and equity capital and the particular forms of capital chosen to finance the assets of the firm

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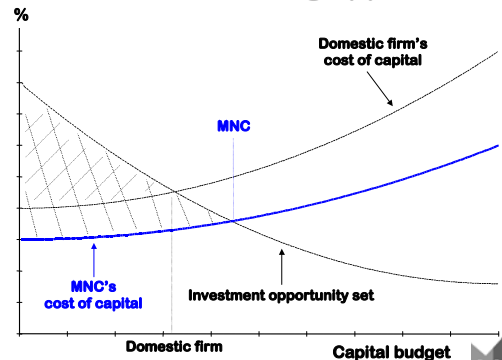
Capital structure

> Management must choose

- the proportions of debt and equity
- the currency of denomination
- fixed or floating rate interest payments
- indenture provisions
- conversion features
- callability
- seniority
- maturity

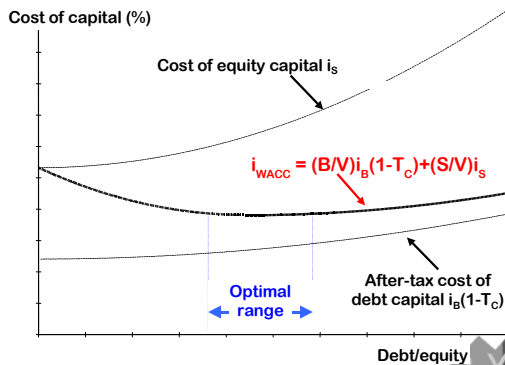
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The MNC's financing opportunities



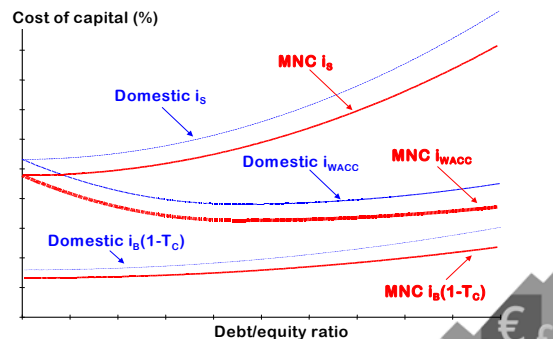
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The weighted average cost of capital



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The MNC's cost of capital



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The perfect market assumptions

- Frictionless markets
- Equal access to market prices
- Rational investors
- Equal access to costless information

MM's irrelevance proposition

- With equal access to perfect financial markets, individuals can replicate any financial action that the firm can take.
- This leads to Modigliani-Miller's famous irrelevance proposition:
If financial markets are perfect, then corporate financial policy is irrelevant.

The converse of MM's irrelevance proposition

$$V = \sum_t E[CF_t] / (1+i)^t$$

- If financial policy is to increase value, then it must either
 - increase expected future cash flows
 - decrease the discount rate
- in a way that cannot be replicated by individual investors.

Financial market integration

- In **integrated financial markets**,
 - real after-tax rates of return on equivalent assets are equal

Factors leading to financial market segmentation

- prohibitive transactions costs
- different legal and political systems
- regulatory interference (e.g., barriers to financial flows)
- differential taxes
- informational barriers
- differential investor expectations
- home asset bias
(a tendency to buy financial assets from the domestic market)

Project valuation & cost of capital

- **Approaches to project valuation**
 - **WACC** = Weighted average cost of capital
 - **APV** = Adjusted present value
- **Use an asset-specific discount rate**
 - **Nominal (real) cash flows should be discounted at nominal (real) discount rate**
 - **Domestic (foreign) currency cash flows should be discounted at a domestic (foreign) discount rate**

Weighted average cost of capital (WACC)

$$NPV = \sum_t [E[CF_t] / (1+i_{WACC})^t]$$

$$i_{WACC} = [(B/(B+S)) i_B (1-T_C)] + [(S/(B+S)) i_S]$$

B = the market value of corporate bonds

S = the market value of corporate stock

i_B = required return on corporate bonds

i_S = required return on corporate stock

T_C = marginal corporate tax rate

Adjusted present value (APV)

$$APV = V_U + PV(\text{financing side effects}) - \text{initial investment}$$

where

V_U = the value of the unlevered or all-equity project

PV(financing side effects)

= value of tax shields from the use of debt, net of the expected costs of financial distress

Total versus systematic risks

- > If operating risks are **diversifiable**, then they are not priced by investors and should not be reflected in capital costs
- > If operating risks are **nondiversifiable**, then they should be reflected in capital costs
 - Capital costs are increased if these risks are positively related to the market portfolio
 - Capital costs are decreased if these risks are negatively related to the market portfolio

Country risks and equity returns

- > Erb, Harvey and Viskanta find **equity returns** are related to **country risk**
 - **Prices go up (down)** following a **decrease (increase)** in **country risk**
 - Countries with **high country risk** tend to have more **volatile returns**
 - Countries with **high country risk** tend to have **lower betas** (systematic risks)

Erb, Harvey, & Viskanta, "Political Risk, Financial Risk and Economic Risk," *Financial Analysts Journal*, 1996.

Liberalizations and the cost of capital

- > Bekaert and Harvey find **financial market liberalizations** tend to
 - Increase the **correlation** of emerging market and world market returns
 - Have little impact on emerging market return **volatility**
 - Decrease local firms' **capital costs** by as much as 1 percent

Bekaert & Harvey, "Foreign Speculators and Emerging Equity Markets," *Journal of Finance*, 2000.

<http://www.ibbotson.com/>

- > **International CAPM:** $E[r_i] = r_F + \beta_i (r_{\text{world}} - r_F)$
- > **Globally Nested CAPM:** $E[r_i]$ is a function of systematic country risk plus regional systematic risk not included in the world factor
- > **Country Risk Rating Model:** $E[r_i]$ based on country credit risk
- > **Country-Spread Model:** Adds a country-specific spread to a conventional cost of equity estimate
- > **Relative Standard Deviation Model:** Countries are assigned an equity premia in proportion to their standard deviation relative to the U.S.

Sources of funds for MNCs

- The financial **pecking order**
 - **Internal** sources of funds are preferred
 - **External** sources of funds are accessed only after internal sources are exhausted
 - **External debt** is the preferred external funding source
 - New **external equity** is used only as a last resort

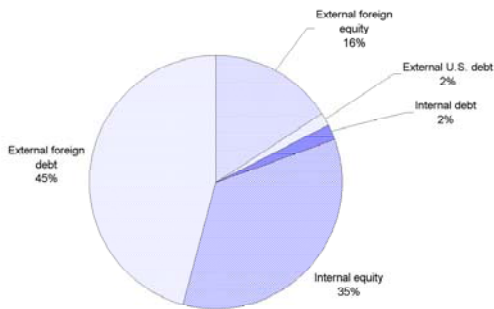
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MNC sources of funds

	<u>Internal sources</u>	<u>External sources</u>
MNC's home country	Cash flow from parent & affiliates in the parent's home country	New debt or equity financing (perhaps issued or guaranteed by the parent firm)
Foreign project's host country	Cash flow from existing operations in the host country	Local debt or equity from institutions or markets in the host country
International financing sources	Cash flow from other foreign affiliates	Project finance Eurobonds Euroequity

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Sources of funds for foreign ops



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Registered vs bearer securities

- Securities in the United States and Japan are issued in **registered form**
- The convention in Western European countries is to issue securities in **bearer form**

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Targeted registered offerings

- **Targeted registered offerings** allow U.S. corporations to issue bearer securities to international investors
 - Owner must be a financial institution
 - Interest or dividends are paid to a registered institution
 - Issuer certifies it has no knowledge of US taxpayers owning the security
 - Issuer and the registered foreign institutions must follow SEC certification procedures

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The international evidence on capital structure

- Leverage increases with
 - **Asset tangibility**
 - **Firm size**
- Leverage decreases with
 - **Growth opportunities**
 - **Profitability**

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