

# INTERNATIONAL CORPORATE FINANCE

Introduction to debt financing

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## Business vs Financial risk

- Standard measure is beta (controlling for financial risk)
- Factors:
  - Demand variability
  - Sales price variability
  - Input cost variability
  - Ability to develop new products
  - Foreign exchange exposure
  - Operating leverage (fixed vs variable costs)
- The additional risk placed on the common stockholders as a result of the decision to finance with debt
- Leverage increases shareholders' risk
- Leverage increases cost of equity

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## Business and Financial Risk

- Financial leverage concentrates the firm's business risk on the shareholders because debt-holders, who receive fixed interest payments, bear none of the business risk.

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## Leverage and firm value

- Capital structure affects the risk and, hence, the value of the company.
- Capital Structure Theory
  - Miller and Modigliani
  - Tax shield
  - Bankruptcy costs
  - Agency costs
  - Information Assymetry

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## Leverage and firm value

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## WACC

The **weighted average cost of capital (WACC)** is the marginal cost of raising additional capital and is affected by the costs of capital and the proportion of each source of capital:

$$\text{WACC} = \left[ \frac{D}{V} r_d (1 - t) \right] + \left[ \frac{E}{V} r_e \right]$$

where

$r_d$  is the before-tax marginal cost of debt

$r_e$  is the marginal cost of equity

$t$  is the marginal tax rate

$D$  is the market value of debt

$E$  is the market value of equity

$V = D + E$

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## Capital Structure Irrelevance

- Franco Modigliani and Merton Miller (MM) theory that helps us understand how taxes and financial distress affect a company's capital structure decision.
- Unrealistic assumptions, but helpful conclusions:
  1. Homogeneous expectations
  2. Bonds and stocks are perfectly traded
  3. Borrowing rate = lending rate
  4. No agency costs.
  5. Investment and financing decisions are independent

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## No tax scenario

- Market Value not affected by capital structure,
  - if there are no taxes, costs of financial distress
  - Investors themselves decide on leverage
- Cost of equity is linear function of indebtedness
$$r_e = r_0 + (r_0 - r_d) \left( \frac{D}{E} \right)$$
- The WACC is constant because as more of the cheaper source of capital is used (that is, debt), the cost of equity increases.

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## Modigliani and Miller Theory(MM)

- Under such assumption company's value is independent from the capital structure (because investors can adjust the leverage level on their end)
- Investment and financing decisions can be done are independent
- This however was not confirmed in practice

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## Adding tax shield to MM Theory

- the tax deductibility of interest increases the value
  - Lowers the cost of debt.
  - Lowers the WACC as more debt is used.
  - Increases the value of the firm

	Without Taxes	With Taxes
Value of the Firm	$V_L = V_U$	$V_L = V_U + tD$
WACC	$r_{WACC} = \left[ \frac{D}{V} r_d \right] + \left[ \frac{E}{V} r_e \right]$	$r_{WACC} = \left[ \frac{D}{V} r_d (1 - t) \right] + \left[ \frac{E}{V} r_e \right]$
Cost of Equity	$r_e = r_0 + (r_0 - r_d) \left( \frac{D}{E} \right)$	$r_e = r_0 + (r_0 - r_d) (1 - t) \left( \frac{D}{E} \right)$

- Without bankruptcy costs the optimal capital structure is 99.99% debt.

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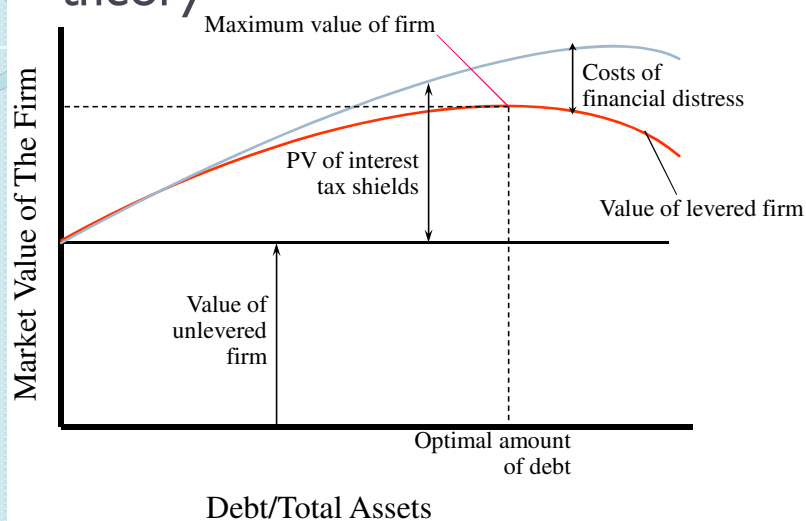
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## Adding bankruptcy costs to MM

- **Costs of financial distress** are costs associated with a company that is having difficulty meeting its obligations.
- Costs of financial distress include the following:
  - Opportunity cost of not making optimal decisions
  - Inability to negotiate best contracts
  - Loss of clients
- The expected cost of financial distress increases as the relative use of debt financing increases.
- **There exists an optimal capital structure**

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## Modified corporate structure theory



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## Optimal Capital Structure

Taxes	Costs to Financial Distress	Optimal Capital Structure?
No	No	No (classic MM)
Yes	No	Yes, 99.99% debt
Yes	Yes	Yes, benefits of interest deductibility are offset by the expected costs of financial distress

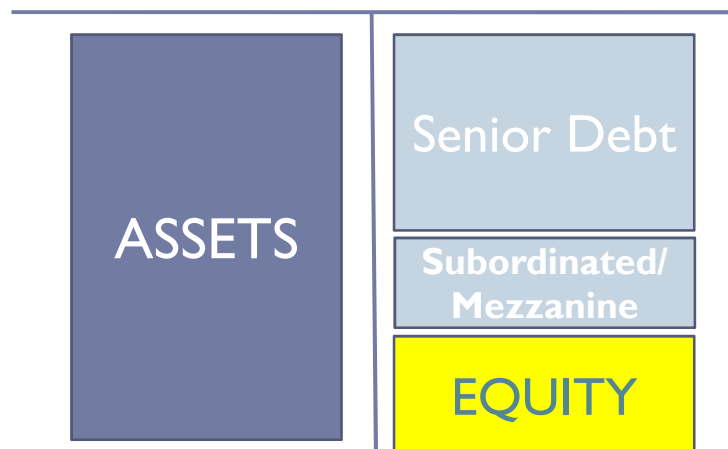
Optimal capital structure for a given company depends:

- business risk
- tax situation
- tangibility of company's assets
- corporate governance.
- transparency

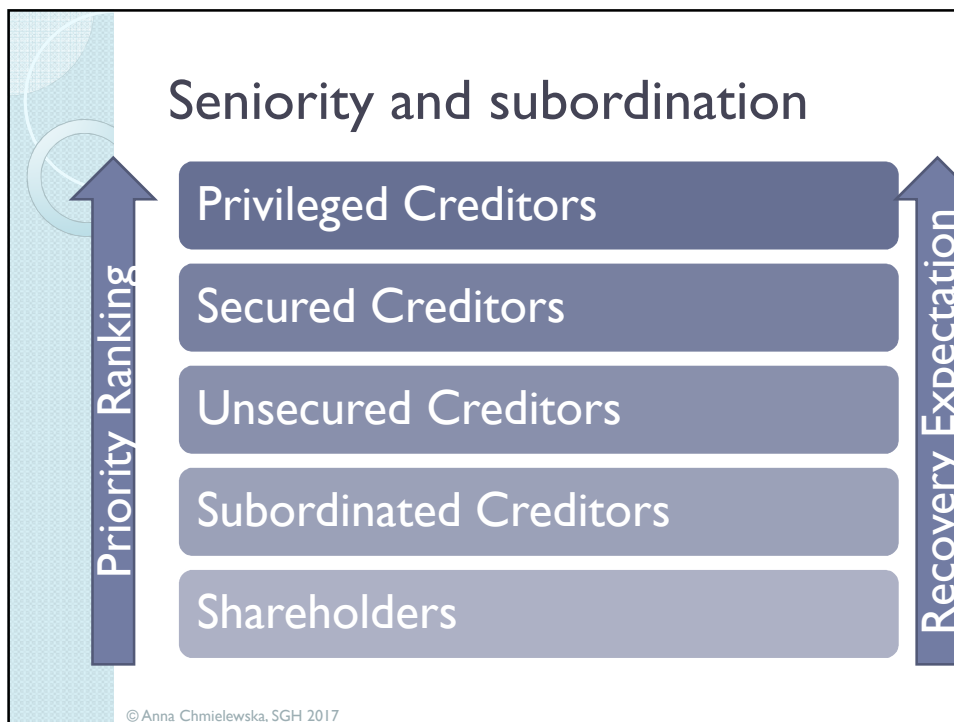
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## Structure of Indebtness



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## Senior Debt

- Most common form of bank loans and corporate bonds
  - Bonds are usually unsecured and bullet
  - Loans typically secured and amortising
- Typical tenor: up to 5-7 years
- Lowest possible cost of financing
- Closely linked to debt capacity
- Most restrictive covenants

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## Mezzanine Debt Structures

- Intermediate form between debt and equity
- E.g.: subordinated loans, preferred shares
- Second ranking security or unsecured
- Usually bullet repayment
- Cash interest + PIK interest (+warrants)
- Typical tenor: 5-10 years
  
- More expensive than senior
- Possible beyond classic debt capacity
- No or limited dilution of shareholding

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## Debt Capacity

Lenders want to ensure the Company has sufficient cash to service its debt obligations

- Where the Company gets money to service its debt?
- Is there anything that the Company needs to pay before the debt?

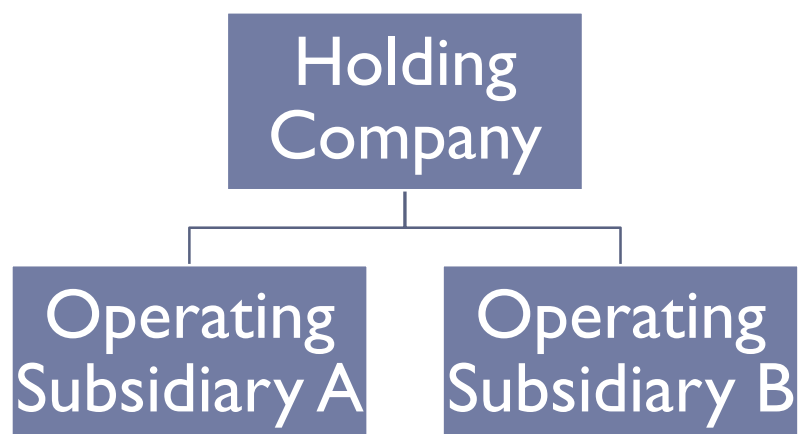
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## How to assess debt capacity

- Free Cash Flows – operating cash flow available for all capital structure investors
- Debt Service
- Where the Company gets money to service its debt?
- Is there anything that the Company needs to pay before the debt?
- For general corporate loans: EBITDA multiple, for project loans DSCR

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## Structural Subordination



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## Security/collateral

Collateral is always the second item considered by Lenders. **Debt capacity goes first!!!**

- Aims:
  - Rank senior or pari-passue
  - Achieve full recovery (overcollateralisation)
  - The more liquid, the better
- Types:
  - Financial
  - Physical
  - Intangible

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## Restriction and covenants

- Why the lenders need to secure their rights prior to the disbursement?

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## Restriction and covenants

- Protect against deteriorating credit
- Agree on how the Company can be run
- Manage conflict between shareholders and creditors
- Limit agency costs
  
- Covenants typically focus:
  - Cash flows
  - Subordination
  - Event Risk

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## Afirmantive & negative covenants

- Access to information
- Maintain core business
- Maintain conditions of assets
- Real estate
  
- Leverage/ limited extra loans
- Securities
- Investments, capex, asset sale
- Dividends

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## Covenants - examples

- Negative pledge
- Pari-passu
- Cross default
- Change of control
- Material Adverse Clause

### Other requirements

- Debt Service Reserve Account
- Cash Sweep Mechanism

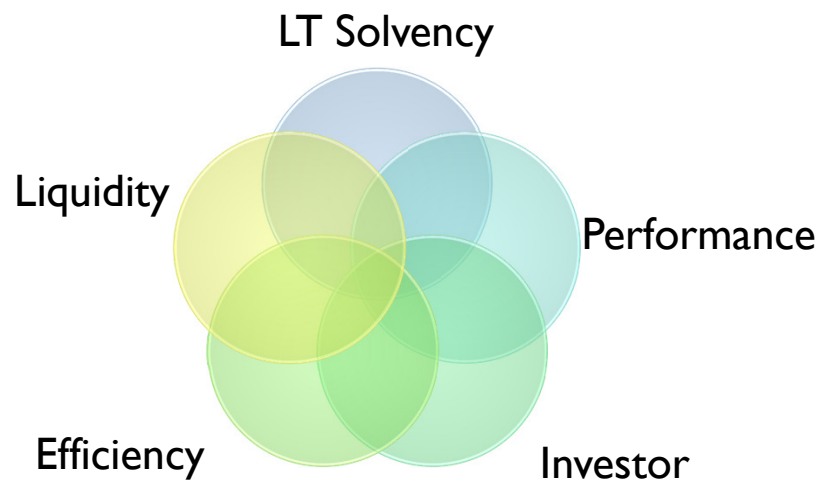
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## Financial Covenants

- Debt service coverage ratio
- Interest coverage ratio
- Debt to EBITDA
- Current ratio
- Leverage ratio
- Tangible net worth

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## Ratio Overview



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## Performance Ratios

- Profit margin
- EBIT Margin
- EBITDA Margin
- Return on Equity
- Return on Assets

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## LT Solvency (Financial Risk) Ratios

- Debt to Assets
- Debt to Equity
- Debt to EBITDA
- Debt Service Coverage Ratio

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## Liquidity Ratios

- Current ratio
- Working Capital to Sales
- Interest coverage

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## Efficiency Ratios

- Inventory Days
- Receivables Days
- Payables Days

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## Investor Ratios

- Net profit per Share
- Dividend Yield
- Net Profit to Sales
- ROE

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## Debt Capacity

- After analysing the Company's financials, it is decided how much such Company can borrow.
- What if chosen ratios show different debt capacity?

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## Corporate Loan

A situation a loan is given to an operating Company and therefore can be serviced with already existing cash flows and the proceeds from new investments

Typical considerations:

- Maximum leverage
- Pari passu (no subordination, incl. structural)
- Operating performance is important
- Some form of cash-flow control
- General business
- Security of lower importance

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## Project Finance

A situation where the debt is given for the purpose of construction and/or operation of a distinct project and therefore its repayment is solely reliant on the performance of such project

- Typical consideration:
  - Security on everything (incl. assets, shares, key contracts)
  - Assignment of rights and contracts, step in rights
  - Equity Contribution
  - Cash flow ratios
  - Contractual obligations

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## Leveraged buy out

- Situation where the money is raised with purpose to acquire another company, and the intention is that debt will be serviced with proceeds coming from such company
- Typical consideration:
  - High leverage
  - Detailed look at subordination
  - Security on shares
  - Managerial Control

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