

INTERNATIONAL CORPORATE FINANCE

Introduction to leverage and financing selection

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No Universal Capital Structure

Taxes	Costs to Financial Distress	Optimal Capital Structure?
No	No	No
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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No Universal Capital Structure

Taxes	Costs to Financial Distress	Optimal Capital Structure?
No	No	No, classic MM – capital structure doesn't matter
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
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IMPACT OF LEVERAGE

Sample numeric example: financing real estate

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Financing real estate – equity only

- Buy property that is yielding 6% pre tax, net opex for USD 1 mio, tax rate (t) is 20%
 - You can borrow for LIBOR + 200bp (20 year mortgage).
 - Libor is now 0%, long term rates around 2%
 - Your bank offers only equal principal installment loans (here 5% pa)
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- If you buy property cash
 - Your return is 4.8%
 - Annual cash flow for shareholders is \$48 000

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Financing real estate – loan

- Buy property that is yielding 6% pre tax, net opex for USD 1 mio, tax rate (t) is 20%
 - You can borrow for LIBOR + 200bp (20 year mortgage).
 - Libor is now 0%, long term rates around 2%
 - Your bank offers only equal principal installment loans (here 5% pa)
-
- How much approximately can you borrow?
 - Annual FCDS = $6\% \times (1-t) \times 1 \text{ mio} = \$48,000$
 - $\text{MaxLoan} \times 5\% + \text{MaxLoan} \times 2\% = \text{FCDS} + \text{MaxLoan} \times 2\% \times t$
 - $\text{MaxLoan} = \$ 727 727$
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- Lets assume you take \$ 700 000 loan

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Real estate loan vs running yield

- Buy property that is yielding 6% pre tax, net opex for USD 1mio, tax rate (t) is 20%
 - You can borrow for LIBOR + 200bp (20 year mortgage).
 - Libor is now 0%, long term rates around 2%
 - Your bank offers only equal principal installment loans (here 5% pa)
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- Loan of \$ 700 000 and cash of \$ 300 000
 - Annual CFDS = $(6\% \times 1 \text{ mio} - 2\% \times 700000) \times (1-t) = \$ 36 800$
 - Annual CFDS = $EV \times (EBITDA - c_d \times D / EV) \times (1-t)$
 - If you pay back the instalment (of \$35k) the annual cash flow for shareholders = \$ 1 800 (i.e. mere 0.6%). Lower than previously?
 - But you now have to repay less debt so actually for return calculation your instalment could be ignored, as the instalment is effectively your non cash profit.
Therefore levered return $\$ 36 800 / 300 000 = 12.2\%$

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Financing real estate – running yield

- Unlevered investment of \$1mio yields 4.8% p.a.
 - 70% levered investment yields 12.2% p.a.
-
- How was it possible?
 - The cost of debt was 4% (expected long term) significantly lower vs 6% business return. Therefore we could have increased equity return when taking on loan.
 - Increase in return was obtained thanks to (i) leverage and (ii) tax shield
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- Is that all leverage impact?

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Financing real estate – gain at exit

- Unlevered investment of \$1 mio yields 4.8% p.a.
- 70% levered investment yields 12.2% p.a.
- Exit after 2 years, selling price \$1 100 000, Prepayment fee 1%

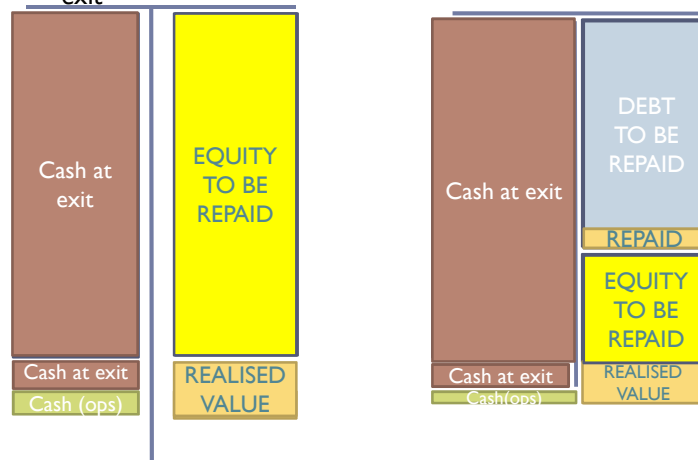
- Unlevered example
 - 2 years profits add to \$96k
 - Sales revenues were \$1 100k, therefore tax is 20k
 - Total inflows for equity is 96k + 1 100k - 20k = 1 176k
 - Therefore return on equity investment is 76 000 / 1 000 000 = 17.6%

- Levered example (assume LIBOR of 0%)
 - 2 years profits add to \$1.8k+\$2.36k
 - Sales revenues were \$1.1 mio, therefore capital gain tax is \$20k
 - Loan remaining to be repaid \$630k , prepayment fee \$6.3 mio
 - Therefore all inflows for equity is (4.16 + 1 100 -20- 636.3)k = 447.86k
 - in return is \$ 147 860 / 300 000 = 49.29%

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How was this possible?

- Unlevered investment of \$1 mio gave 17.6% (1.18x money) at exit
- Levered investment of \$300k gave 49.3% (nearly 1.49x money) at exit



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Financing real estate example

- Running yield
 - Unlevered: 4.8%
 - Levered (initial): 12.2%

- After 2 years 20% gain in property price
 - Unlevered: 25.6%
 - Levered: 75.95%
- After 2 years 10% gain in property price
 - Unlevered: 1.49%
 - Levered: 49.29%
- After 2 years 10% loss in property price
 - Unlevered: 1.6%
 - Levered: -4.53%
- After 2 years 20% loss in property price
 - Unlevered: -8%
 - Levered: -37.9%
- After 2 years 50% gain in property price
 - Unlevered: 49.6%
 - Levered: 155.95%
- After 2 years sale at costs
 - Unlevered: 9.6%
 - Levered: 22.62%
- After 2 years 50% loss in property price
 - Unlevered: -38%
 - Levered: -137.9% or -100%
- Is it possible to loose more than 100%?
 - If no recourse – lenders take excess hit
 - If recourse – shareholders take the hit

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Financing real estate – loss at exit

- Unlevered investment of \$1mio yields 4.8% p.a.
- 70% levered investment yields 12.2% p.a.
- Exit after 2 years, selling price \$ 900 000, Prepayment fee 1%

- Unlevered example
 - 2 years profits add to \$96k
 - Sales revenues were \$ 900k, therefore tax return is 20k
 - Total inflows for equity is 96k + 900k + 20k = 1016 k
 - Therefore return on equity investment is 16 000 / 1 000 000 = 1.6%

- Levered example
 - 2 years profits add to \$4.16k
 - Sales revenues were \$ 900k, tax return is \$18.54k (all tax paid)
 - Loan remaining to be repaid \$630k , prepayment fee \$6.3 mio
 - Therefore all inflows for equity is $(4.16 + 900 + 18.54 - 636.3)k = 286.4k$
 - in return is $\$ - 13 600 / 300 000 = \text{MINUS } 4.53\%$

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Financing rental gain – exit

- Unlevered investment of \$1mio yields 4.8%
- 70% levered investment yields 12.2%

- How was it possible?
- The cost of debt was 4% (expected long term) significantly lower vs 6% business return. Therefore we could have increased equity return when taking on loan.
- Increase in return was obtained thanks to (i) leverage and (ii) tax shield

- Is the levered investment riskier?

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Financing rental gain – losses

- You are exiting the investment after year 2
- Unfortunately you can only sell for 950 000
- On unlevered investment you report one-off loss
- Libor is now 0%, long term rates around 2%
- Your bank offers only equal principal installment (here 5% pa)
- How much approximately can you borrow?

- You buy property cash
- Your return is 4.8%

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Leverage - conclusions

- Allows to multiply returns
- However also multiplies gains
- High leverage (no recourse) transfers part of business risk onto the Lenders, allowing shareholders to take „excessive” risks
- Therefore (from shareholders perspective) is can limit the impact of business risk

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CHOICE OF FINANCING STRUCTURE

Early examples: Intuition

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Points to consider

- What you want to achieve?
 - Growth
 - Profit
 - Control
- How much own liquidity you want/can invest?
- What is your view on business risk?
- What is the debt capacity?
- What is your risk appetite?
- What alternative equity sources you have?

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Situation One

You are a successful businessman. You started in the tourist business 10 years ago, first 5 years renting a house you inherited, thereafter building your first hotel (by taking mortgage over land, your apartment and selling the inherited house).

The hotel was so popular that you shortly decided to built another one. Thanks to good publicity your two hotels are now well known. You finance it with new mortgage secured over both hotels.

You would like to expand (built a network of 5-8 hotels) and you cheaply bought a nice land in five tourist districts in 3 countries. But you don't have cash to invest.

How can you finance your expansion. What are pros and cons of different options? Do you built hotels one by one or all at once?

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Situation One – points to consider

- Land value and real estate are tangible: borrowing should be possible
- Hotels generate relatively stable revenues stream which can help to service the debt.
- It may be possible to take a loan for each hotel investment independently.
- Operating hotels can take loan – do you want to risk on those?
- Bundling together may increase the total loan
- However do you think banks would borrow 100% of the 8 new hotels construction costs?
- Is it more important to invest quickly / maintain full ownership / limit your risk
- If you want quick growth you would most likely need new equity. Where would you look for it?

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Situation One – alternatives

- Gradual growth: operating hotels take loan – construction of new hotels on cash availability basis (slower roll-out)
- Risk limitation: you set up an spv for each hotel, contribute land as equity, take loan at each spv level (e.g. 50% of cost) and invite business partners to contribute missing equity.
- Moderate growth with control and leverage: you raise equity at your company level (capital increase of e.g. 90%), so that you still keep control and raise debt to finance rest of construction costs
- Quickest growth with control and leverage: you raise equity at your company level (capital increase of e.g. 90%), so that you still keep control and raise debt on operating hotels only, which (together with capital increase proceeds and land) you inject in SPVs for new hotels. You raise debt at the SPV level and invite minority business partners at SPV level if needed.
- Quickest growth without financial risk: you raise equity at the company that would be sufficient to finance all construction. Your view is to refinance the hotels once operational. This is likely to cost you losing control, but is most flexible business wise.

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Situation Two

You are leading a large oil group, that has a refinery and a network of petrol stations. The Company is listed at the Hungarian stock exchange. You see the opportunity in entering the oil exploration. Thanks to your business contacts you have identified an interesting piece of land in Kazakhstan. The largest shareholder approves this strategy, however some minorities consider it too risky.

How do you finance your plans? Within the existing Company or by establishing new one? Do you use debt or equity?

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Situation Two – points to consider

- Unhappy shareholders may sell affecting the stockprice
- Limiting risk of investment may gain wider acceptance
- Debt financing possible only based on nearly certain cash flows. Would SPV be able to raise debt?
- Exploration risk is high, but the returns are rich as well

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Situation Three

You are a bright postgraduate. Together with your friend you developed a social internet network for graduates of your uni but business-oriented (split by the type of job performed). It became popular and you started make money on ads. You financed it by „friends and family” money.

Than another uni asked you to replicate this, which you did partly via prepayment from uni, but rest from own profits form first project.

Now you have the idea to expand the business onto 100 universities in US. This requires USD 200 million into IT, with expected profits of 30 million a year; but possible only after ca. 2 years when systems gain popularity.

A well known business man offered you help in raising 95% finance for 66% of your company and profits. Do you accept his help? What options to finance you have and which would you choose.

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Situation Three – points to consider

- Control aspect would slow down investment
- Compatition risk
- Minority stake in large company or majority is small size?
- Venture finacning
- Business Angle
- Crowd-funding
- If you accept offer, what would you like to negotiate?

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