



**LISBON
SCHOOL OF
ECONOMICS &
MANAGEMENT**
UNIVERSIDADE DE LISBOA

GESTÃO FINANCEIRA II / CORPORATE FINANCE II

Problem Set 2

Licenciatura – Undergraduate Course

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GESTÃO FINANCEIRA II - PROBLEM SET 2

SUBMISSION DEADLINE: 19-11-2020 23:59H | e-mail: victormbarros@iseg.ulisboa.pt

Chapter 17 & 18 – Financing Policy

- Identify your assumptions whenever you deem necessary –

- 1) Comment the following sentence (limited to 200 words):
“During the current pandemic companies should reduce leverage to add value to its shareholders”.

- 2) In a world without taxes, suppose drug retailer CVS has an equity beta of 0.80 and a debt-equity ratio of 0.10.
 - (a) Estimate CVS’s asset beta assuming that debt is riskless.
 - (b) Now suppose that CVS aims to increase its leverage to a debt-equity ratio of 0.50.

Assuming no change in the risk of debt, estimate the equity beta after the increase in leverage.

- 3) Rexton Oil is an all-equity firm with 100 million shares outstanding. Rexton has US\$150 million in cash and expects future free cash flows of US\$65 million per year. The management plans to use the cash to expand operations, which will permanently increase future free cash flows by 12%. The cost of capital of Rexton’s investments is 10%, and both the company and shareholders are exempt from taxes. How would a decision to use the cash for a share repurchase rather than for the expansion change Rexton’s share price?

- 4) Considering a corporate tax rate of 20%, compute the present value of interest tax shields generated by the following types of debt:
 - a) €100,000 10-year loan with maturity in 10 years and interest rate of 6%. Debt is to be paid 20% in 2 years, 30% in 7 years and the remaining at maturity.

 - b) Perpetual bond (zero-coupon) with an implied yield of 5%.

 - c) 5-year loan with maturity in 5 years, interest rate of 5% and constant annual payments.

- information for questions 5 onwards -

iRemoteWorking is a startup launched by two ISEG's students during the Covid-19 pandemic aimed to provide a wide range of services for employees operating in remote mode. Initial capital was €48,000. The three friends are now looking to alternatives for financing the company and decided to hire your team for financial advisory. iRemoteWorking's survival depends on the ability to raise at least €80,000 during the next year.

At the end of September 2020, the two partners presented a business plan to a large Portuguese bank. The business plan's viability depends on the proposed loan. The estimated free cash flows to the firm are as follows:

(in EUR)

Period	t=0					
	2020 Q4	2021	2022	2023	2024	2025
FCFF	-12,750	6,150	73,800	81,180	93,300	98,000

Cash flows are expected to persist from 2025 onwards. Overnight yields are at -0.35% and long-term bonds at 0.15%, both risk-free. Following the pandemic, analysts estimate an increase in market risk premiums to 6.75%.

Similar companies have the following forward-looking data:

Company	Beta	D/E	Rd	Tax Rate
A	1.3	2.65	4.0%	28.0%
B	2.5	4	5.6%	30.0%
C	0.95	1.2	2.0%	25.0%
D	1.6	2.8	4.2%	30.0%

Corporate taxes dropped recently by 45 bps to 30.0%. Consider that Modigliani-Miller's framework with taxes is valid.

- 5) Estimate the current equity cost of capital for iRemoteWorking.
- 6) The bank agrees to lend €80,000 with maturity in 6 years and spread of 3.5%, although it imposed two covenants:
 - i) no dividend distribution before full repayment;
 - ii) Net Debt ÷ EBITDA less than 2x from 2022 onwards.

What is iRemoteWorking weighted average cost of capital if this option is accepted?

- 7) Recently, the Government of a developed country launched a stimulus package:
 - reduction in the top personal tax rate for equity income by 800 bps to 20.0%;
 - reduction in tax rates for interest income from 28.0% to 22.0%;
 - exempt of 25.0% of taxable income for corporate taxes.

Compute the change in the relative tax advantage of debt.