UNIVERSIDADE CATÓLICA PORTUGUESA

FACULDADE DE CIÊNCIAS ECONÓMICAS E EMPRESARIAIS

MSc. in Business Administration

April/May 2009

COURSE: Advanced Corporate Finance

EXAM

TIME: 3 h

You will have to answer Questions II and III, and <u>choose</u> between Questions I and IV

Lecturer: Maria Manuela Athayde Marques

(04/06/09)

I (60 m.)

(6 marks)

Roger Harkel, CEO and single owner of **CABLE & WIRE Inc.**, is seeking to raise equity through a private placement in his early stage fiber optic company.

CABLE & WIRE is a young firm that only recently started reporting revenues arising from the sales of in-company newly developed products. The company is showing accumulated net losses in its Balance-Sheet and net profits are not expected over the coming three years. However, in year four, Harkel projected net income for **CABLE & WIRE** of €6,5M, expecting it to grow at 20% per year thereon for the next 10 years. It is Harkel's objective to take the company public through an IPO at the end of year four. Comparable firms command leading price/earnings ratios (leading PERs) in the market of 25 on average.

The company has no debt outstanding now and is not expected to have it in the foreseeable future. The industry unlevered beta is 1,15. The risk-free rate is 3% and the market risk premium is 4%. There are 10,593M shares issued and outstanding.

(10%) 1. What type of private equity is Harkel seeking? What kind of investor is likely to be targeted?

(10%) 2. Estimate a possible value for **CABLE & WIRE** currently outstanding shares at the IPO.

(20%) 3. What % of **CABLE & WIRE** capital will a private equity investor demand if asked to provide €13,482M to the company today, knowing that his required rate of return on the investment is 50%?

(20%) 4. Harkel feels, however, that he may need as much as €17,334M in total outside financing to take his company through the forthcoming three years and implement its heavy investment program. He is seeking to raise this full amount now in a single round, and is approaching a second private equity investor for the purpose. If the required rate of return on the

investment by this latter investor is 40%, how much of **CABLE & WIRE** capital will Harkel have to give up?

(20%) 5. How many shares should each private equity investor purchase, and at what price per share?

(05%) 6. What will be the new estimated value per share of **CABLE & WIRE** at the time of the IPO?

(05%) 7. Bearing in mind the previous results, why is private equity considered one of the most expensive forms of finance?

(10%) 8. Given the statement above, why can't Harkel raise funds for his company in other markets? Please reply, taking into consideration the characteristics of **CABLE & WIRE** and of the alternative sources of financing considered.

II (60 m.)

(7 marks)

SPORT, SA is a sports equipment manufacturing company. **SPORT** is a mature company whose free cash flows to equity (FCFE) have been stable for some years now. It is expected therefore that FCFE per share will maintain its present level of €0,50 in the future. The equity cost of capital is 20% and there are 50.000.000 shares issued and outstanding.

Taking advantage of forthcoming *World Cup 2010*, **SPORT** intends to go public. The IPO will involve a share issue offered to current shareholders (rights issue) and is intended to place a free float of 20% with the public. This operation will allow **SPORT** to raise part of the cash needed to implement a new investment project involving the application of new technologies to the production of sports equipment. The investment will require a capital outlay of €50M and is expected to increase the company's annual FCFF by €20M in perpetuity. The project will be announced to the market simultaneously with the announcement of the IPO. Business risk of the project is higher than the firm's, so the required rate of return on the investment activity (r_A)

is 25%. The project should be implemented immediately after the successful access of the firm to the stock exchange.

Knowing that:

- **SPORT** has paid in the past (and will continue paying into the future) all its residual annual free cash flow as dividend;
- This year's dividend hasn't been announced yet but it will be announced and paid immediately at the date of the announcement of the investment project;
- The capital requirement of the investment project will be financed by retained earnings (10%), perpetual bank debt (50%), and the share issue in the IPO (40%);
- **SPORT** has no excess cash reserves;
- The market incorporates on average 75% of the base NPV of most investment projects, following their announcement to the market;
- **SPORT** shares closed at €3.17 at the end of their first trading day;
- Equity issue costs will ascend to 2% of the amount of the IPO;
- Debt issue costs will be 1% of the gross amount of the loan;
- **SPORT** carries a debt level (D/V) of 50% currently;
- The income tax rate is 30%;

(10%) 1. What is the estimated share value of **SPORT** just before the announcement of the IPO?

(40%) 2. Estimate the opening price (fair value) of the company's shares at the IPO.

(20%) 3. **SPORT** major shareholder had 70% of the company's capital before the IPO. Calculate his % share of the firm's capital after the IPO, and compare his wealth before and after this operation.

(20%) 4. How much money did **SPORT** major shareholder left on the table?

(10%) 5. Calculate TSR for **SPORT** shareholders after the IPO.

III (60 m.)

(7 marks)

Over the recent past, your company has used a considerable amount of debt financing. As a result, it is general current opinion that the debt level today (both at book and market value terms) in your company is too high. Any new addition of debt will carry for sure a downgrade in your firm's debt rating and an increase in its cost of debt. For this reason, you are committed to financing the next round of major capital investments in your firm with equity alone. Your idea is to issue new stock through a cash offering.

Unfortunately, your company hasn't been performing well lately (neither has the market as well). Return on assets has fallen substantially short of the firm's cost of capital and the company has no growth expectations. As the company's Balance-Sheet at 31st December last and the remaining information displayed below show, equity in market value terms (E) is worth less than in book value terms (Net Worth).

Balance-Sheet a 31.12.08
(Book Value) (Units.: € 000)

Assets	10.000	Debt	6.000
		Net Worth	4.000
Total	10.000		10.000

E	€ 1.000.000
Nº of outstanding shares	1.000.000
P_0	€ 1,00
Net Income 2008	€ 200.000
EPS_{08}	€0,20

It is commonly argued that, if the opportunity for a profitable investment arises during a bear market period, financing the investment project with an equity issue will mean lower earnings per share (EPS) for the investor. For instance, a current possible investment project under consideration in your firm (one you are taking the responsibility for!) requires an initial outlay of €400.000 against an estimated market value (PV) of €500.000. If this project is accepted, the annual net income of your firm

is expected to increase by €60,000. However, if the project is entirely financed with an equity issue, 400,000 new shares will have to be issued and EPS will fall to €0.186.

Given the present market and corporate conditions, your company CEO believes that this project should be delayed on three major accounts:

- To issue debt is too expensive for the company at the present moment.
- A cash offering will have the effect mentioned above since the firm's market value added is negative and the share price is too low.
- Capital markets are currently depressed. If the company waits for their recovery, for sure it will be possible to reverse the current negative MVA situation, and the cash offering will no longer affect EPS negatively.

(40%) 1. Defend your project and counter-argue each one of the three reasons presented by your CEO.

(40%) 2. While insisting on your proposal, you must acknowledge by now the fact however that the type of equity financing (cash offering) you are suggesting for your project is not, for some reasons, the most popular one among the different sources and types of financing traditionally used by companies. What reasons account for the lack of popularity of cash offerings?

(20%) 3. What solution(s) would you be prepared to submit to your CEO in order to avoid underinvestment and minimize the negative effects associated with a cash offering? Please justify.

IV (60 m.)

(6 marks)

(05%) 1. With strong efficient financial markets, every financing operation is *a priori* a zero NPV transaction. True or false? Please justify in no more than 3 lines.

(05%) 2. A life cycle analysis of corporate financing shows strong support for the trade-off theory of capital structure. True or false? Please justify in no more than 5 lines.

(20%) 3. Large, mature, still growing firms tend to show:

- **a)** High/Declining/Low bankruptcy costs because earnings are not/very/less volatile;
- **b)** Low/High/Declining needs for financial flexibility because investment requirements are less/more predictable;
- **c)** Rising/declining agency costs as assets in place become a higher/smaller portion of the firm;
- **d)** High/Low/Declining benefits from debt as the need to shield profits from taxes becomes lower/higher;
- **e)** High/Low benefits from debt discipline since ownership structure is more concentrated.

Please rewrite the sentences above as you think it fits. Justify briefly (2 lines at most) for each sentence.

(20%) 4. Which of the following sentences are true or false? Please justify in no more than 3 lines each.

- **a)** In IPOs, the most amount of money left on the table tends to be associated with issues where the offer price has been revised upwards from the file price range.
- **b)** In IPOs, the most amount of money left on the table (in % terms of the amount of the operation) tends to be associated with larger scale operations.
- **c)** In IPOs, long-term underperformance is mostly concentrated among younger firms.

d) In IPOs, long term under performance is mostly concentrated among firms that went public in the low-volume years, and among firms not associated with venture capital financing.

(15%) 5. Empirical evidence has shown that common stock repurchases with debt (leverage recapitalizations) show on average a substantial positive two-day announcement effect on share price (Masulis, 1980, reported a two-day announcement return of +21,9%). Several reasons might explain the price reaction. In no more than 6 lines, please indicate the most likely ones.

(35%) 6. Consider the case of Ajax Manufacturing which just completed an R&D project that required a €70M bond obligation. The R&D effort resulted in an investment opportunity that will cost €75M and generate cash flows of €85M in the event of a recession (prob.=20%) and €150M if economic conditions are favorable (prob.=80%). What is the NPV of the project assuming no taxes, no direct bankruptcy costs, risk neutrality, and a risk-free interest rate of zero? Should the company undertake the project? Can the firm fund the project if the original debt is a senior obligation that doesn't allow the firm to issue additional debt? What problem is the company facing? What if the original debt is not senior? Please build the balance sheet of the project both at book and market value terms: