Project Appraisal

2012/2013

'Recurso' Assessment Period ('Época Recurso')

Economics, Finance, Management, and MAEG Degrees

28 June, 2013 (9:00-11:30)

<u>Before starting please read the following carefully:</u>
- Only scientific calculators **without** graph functions are allowed. It is expressly forbidden to use any other electronic device.
- Any steps of mathematical resolutions as well as the results obtained must **always** be explained.
- No consultation is allowed.

Group 1 (5 points)

1. Explain how strategic analysis can help to define the duration of a project.(3 points)

2. Present, justifying your answer, the possible effects of leverage (gearing) on project appraisal. (2 points)

Group 2 (4 points)

1. The cost of goods sold in a project is forecast to be 800,000 Euros per year. The credit to clients is expected to be 30 days, while the credit from suppliers do not exist. The product inventory (it means, the stocks of final products) days are expected to be 40 days and the annual production is 1,000,000 Euros. There is no raw material inventory. Compute the working capital requirement of this project and explain the importance of it in project appraisal (2.5 points).

2. Explain the calculation of the WACC components. Is the WACC constant across project life? Justify your answer (1.5 points).

Group 3 (6 points)

A business group wants to financially evaluate an industrial project Experts contracted to determine the viability of the project considered that the length of the project would be four-year including the year zero for preparing the project and doing the initial investment required. The investors contract a loan with the bank (100.000,00) at an interest rate of 10%. The required rate of return of own capital is 15% (cost of equity=15%). The reinvestment rate is 5% and the return of risk free assets is 4.5%. Based on additional assumptions, project financial flows were determined (price in euros, constant prices) and included in the next table

	Year 0	Year 1	Year 2	Year 3
Investment (in Fixed Capital)	800,000.00	0.00	0.00	0.00
Working Capital		200,000.00	200,000.00	50,000.00
Residual Value of Fixed Capital				350,000.00
Residual Value of Working capital				0.00
Operational Cash Flow		300,000.00	700,000.00	1,000,000.00

1. Compute the non-discounted Payback Period of this project. (1.5 points)

2. Compute the NPV of this project across time (NPV profile), assuming that the expected residual values for years 1 and 2 are respectively 500,000.00 and 300,000.00. Represent graphically and comment. (3.5 points)

3. Present the algebraic expression for computing the IRR of this project. (1 point)

Group 4 (5 points)

1.   Present two examples of graphical representation of sensitivity analysis and discuss them. (2 points).

2.   The results of a survey of the popularity of various decision-making criteria for investment decisions show that 75% of the chief financial officers surveyed answered that they always or almost always used NPV and IRR techniques. The correspondent results for other decision-making criteria were: Payback Period (60%), Discounted Payback Period (30%) and Adjusted Present Value (10%). Comment these results. (3 points)