***Respond to the discussion questions as completely as you can. On the numerical problems, please show each step to your final solution.***

1. Many firms use the weighted average cost of capital for the firm as the hurdle rate when

comparing to IRR or as the discount rate in an NPV calculation. However, there is an implicit assumption being made when one does that. What problems can one encounter or what errors may occur if one uses the WACC for evaluating all projects where the projects have significantly different risk exposures? Why?

1. Discuss why a firm may choose to split its stock. What are the pros and cons of such a strategy for a firm? Does a stock split add value? If so, how.
2. Your company currently sells oversized golf clubs. The Board of Directors wants you to look at replacing them with a line of super-sized clubs. Briefly explain whether the following are relevant cash flows to this analysis and if so, how those cash flows can affects any decision.

a. $300,000 drop in sales from terminating the oversized line of clubs

b. $750,000 in land you own that may be used for the project

c. $200,000 spent on Research and Development last year on oversized clubs

d. $350,000 you will pay to Fred Singles to promote your new clubs

1. $125,000 you will receive by selling the existing production equipment which must be replaced
2. Assume two **mutually exclusive** investments have the following cash flows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Project | Year 0 | Year 1 | Year 2 | Year 3 |
| Project A | -$200 | $100 | $100 | $100 |
| Project B | -$300 | $150 | $125 | $150 |

Complete the following table assuming that the cost of capital is 10%:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Project A | Project B | Under this Investment Criteria which project would you choose?  (Enter A or B) |
| NPV |  |  |  |
| IRR |  |  |  |
| Payback |  |  |  |
| MIRR |  |  |  |
| Profitability Index |  |  |  |

Based on your answers in the table above, which project would you finally choose?

5)The Empire Manufacturing is considering acquisition of a new press machine for their manufacturing facility in Pennsylvania. They have two machines from which to select. Alternative A has a cost of $120,000. The net cash flow benefit in terms of added efficiency from Alternative A amount to $65,000 per year for 3 years. Empire is also considering Alternative B which will cost $170,000. Once in operation, they project that it will produce benefits of $70,000 per year for 4 years. Inflation is expected to be zero during the next 4 years. If cash inflows occur at the end of each year, and if the cost of capital is 12%, which of the two alternatives is will add the most value? Show your calculations and work.

6) Carolina Trucking Company (CTC) is evaluating a potential lease agreement on a truck that costs $40,000 and falls into the MACRS 3-year class. The loan rate would be 10 percent and would be amortized over the 4-year period, if CTC decided to borrow money and buy the asset rather than lease it. The loan payments would be made at the end of the year. The truck has a 4-year economic life, and its estimated residual value is $10,000. If CTC buys the truck, it would purchase a maintenance contract that costs $1,000 per year, payable at the end of each year. The lease terms, which include maintenance, call for a $10,000 lease payment at the beginning of each year. CTC’s tax rate is 40 percent. Should the firm lease or buy? What is the NAL?

The depreciation rates for 3-year assets are 33% for the first year, 45% for the second year, 15% for the third year and 7% for the fourth year.

7) The Colquitt Company is evaluating the proposed acquisition of a new production machine. The machine’s base price is $108,000 and it would cost another $12,500 to modify it for special use. The machine falls into the MACRS 3-year class and it would be sold after 3 years for $65,000. The machines would also require an increase in net working capital (inventory) of $5,500. The machines would have no effect on revenues but it is expected to save the firm $44,000 per year in before tax operating costs, mainly labor. Their marginal tax rate is 35%.

a) What is the net cash flow at t=0?

b) What are the net cash flows at t= 1, 2 and 3.

c) What is the final year total net cash flow?

8)A currency trader observes that in the spot exchange market, 1 U.S. dollar can be exchanged for 108.11 Japanese yen or for 10.9733 Mexican pesos. What is the cross rate between the yen and the peso; that is, how many yen would you receive for every peso exchanged?

9) Bello Corp. has annual sales of $50,735,000, an average inventory level of $15,012,000, and average accounts receivable of $10,008,000. The company makes all purchases on credit and has always paid on the 30th day. However, it now plans to take full advantage of trade credit and pay its suppliers on the 40th day. The CFO also believes that sales can be maintained at the existing level but inventory can be lowered by $1,946,000 and accounts receivable by $1,946,000. What will be the net change in the cash conversion cycle, assuming a 365-day year?

10) Brau Auto, a national autoparts chain, is considering purchasing a smaller chain, South Georgia Parts (SGP). Brau's analysts project that the merger will result in the following incremental free cash flows, tax shields, and horizon values:

Year 1 2 3 4

Free cash flow $1 $3 $3 $7

Unlevered horizon value 75

Tax shield 1 1 2 3

Horizon value of tax shield 32

Assume that all cash flows occur at the end of the year. SGP is currently financed with 30% debt at a rate of 10%. The acquisition would be made immediately, and if it is undertaken, SGP would retain its current $15 million of debt and issue enough new debt to continue at the 30% target level. The interest rate would remain the same. SGP's pre-merger beta is 2.0, and its post-merger tax rate would be 34%. The risk-free rate is 8% and the market risk premium is 4%. What is the value of SGP to Brau?