International Financial Management FINA 4836
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Final Exam

No points will be given by simply writing down formulas, and writing down definitions or irrelevant statements from the book, or saying "yes," will get you zero points. Justify all your answers. If you cannot prove something give some intuition. Good luck. Reminder: this is an open book exam, but no open notes.
Estimated Time: 2 hrs 30 minutes.

I. Problems (10 points each).
1. Stelman Inc., a U.S. firm, plans to invest in a new project that will be located either in Venezuela or in South Africa. Assume the U.S. risk free rate is 3%. You have the following data on expected returns, volatility, correlations, and weights for each project:

	Stelman	Venezuela	South Africa
Expected return	13%	23%	33%
Standard deviation	15%	30%	50%
Correlation with existing Stelman's portfolio	1.00	.32	.12
Weight on overall portfolio	-	.25	.10
Beta	.90	1.10	1.40

A. Based on the Sharpe Ratio, which project would you recommend to Stelman?
B. Based on the Treynor Ratio, which project would you recommend to Stelman?
C. Is Stelman, under both criteria, better off without adding any project?

2. Cerceo, an Irish beverage company, wants to refinance debt amounting to USD 200 million. An investment bank suggests issuing a straight bond, with annual coupon payments. The investment bank has the following data available:

Irish government bond yields: 3-year 4.70 % (p.a.)
U.S. Treasury government bond yield: 1-year 5.25 % (s.a.)
U.S. Treasury government bond yield: 3-year 4.85 % (s.a.)
German government bond yield: 3-year 4.10 % (s.a.)
Cerceo Euro-Eur bond yield (outstanding debt): German government bonds + 205 bps (s.a.)
Cerceo Euro-USD bond yield (outstanding debt): US T-bond + 220

Given the current tight market conditions, an investment bank suggests: a 3-year full-coupon USD Eurobond and an issue price of 100% (P=100).

(1) Following usual practices for Eurobonds, set the coupon rate.

(2) A year from now, there is a resolution to the Ukraine crisis in Europe. What would the effect of this crisis be on the value of the bond? Briefly explain your logic.

(3) Two years from now, the Irish government has a unexpected big deficit. What would the effect of this deficit be on the value of the bond? Briefly explain your logic.

(4) Three years from now, Cerceo wants to buy back the bond. If the yield to maturity for similar bonds is 6% and S_t = 1.10 USD/EUR, how much does Kelly have to pay (in EUR) for the bond buyback?

3.- Suppose LIO Corp is considering a project in South Africa (T=5 years), which requires an investment of ZAR 200M (ZAR: South African Rand). LIO is planning to use the usual 60/40 D/E split. South Africa has a 25% effective corporate tax rate. To calculate the cost of capital, LIO gathers the following data (all annualized):

LIO can borrow in South Africa at 12% and in the U.S. at 6.5%.
5-year government (risk-free) rates: 10.5% in South Africa and 5.3% in the U.S.
Effective corporate tax rate in South Africa: 25%
Expected South African stock market return = $E[r_{m=SA}]$ = 14%
U.S. stock market return $E[r_{m=US}]$ 8%
Beta of project: 1.2
$E[I_{SA}] = 5\%$
$E[I_{US}] = 3\%$
Stock market volatility: 35% in South Africa, 15% in the U.S.
Bond market volatility: 26% in South Africa, 12% in the U.S.

a. Using WACC, calculate the cost of capital for the South African project.

b. Suppose LIO does not trust the expected return reported for South Africa and decides to use the Relative Equity Market Approach to estimate the South African risk premium, $E[r_m - r_f]$. Recalculate the cost of capital for the South African project.

c. LIO believes the project would not have full exposure to South African country risk, since 80% of its production would be exported to the U.S. How would you adjust the cost of capital in this case? Provide an estimate.

4. Stelman Corporation bought equipment from a Mexican firm. Stelman Corp. will pay MXN 20,000,000 in 90 days (MXN=Mexican peso). It considers using (1) a forward hedge, (2) an option hedge, (3) a money market hedge, or (4) no hedge. Its analysts provide you with the following data:

- Spot rate: .168 USD/MXN
- 90-day forward rate: .17 USD/MXN.
- 90-day (annualized) interest rates are as follows:
  deposit rate: 10% in Mexico, and 5% in the U.S.
  borrowing rate: 11% in Mexico, and 5.25% in the U.S.
- A call option on MXN that expires in 90 days has an exercise price of USD .172 and a premium of USD .004.
- A put option on MXN that expires in 90 days has an exercise price of USD .165 and a premium of USD .002.
- Stelman Corporation forecasted the future spot rate in 90 days as follows:

Possible Outcomes	Probability
.16 USD/MXN	30%
.17 USD/MXN	50%
.18 USD/MXN	20%

A. Calculate the expected amount to pay in 90 days under each hedging strategy.
B. Which strategy would you recommend to Stelman Corporation? Do preferences matter? Be explicit.

5. The annual Brazilian real (BRL) interest rate is 8% (s.a.), while the annual USD interest rate is 5% (s.a.). Reynolds Co., a U.S. firm, entered into a currency swap with a swap dealer, where Reynolds pays 4% semi-annually in USD and receives 7% semi-annually in BRL. The principals in the two currencies are USD 5 million and BRL 20 million. The swap will last for another two years (4 payments). The exchange rate is 0.25 USD/BRL. For simplicity, assume the term structure in Brazil and in the U.S. is flat and that principals are not exchanged.

A. Draw a diagram showing the semi-annual swap cash flows (in BRL and in USD).
B. Value this currency swap for Reynolds Co.
C. Suppose the USD interest rates increase. Without doing any calculations, does the value of the swap increase or decrease for Reynolds Co.?
D. A year from now (2 payments left), the exchange rate is 0.20 USD/BRL. Assuming that nothing else has changed, calculate the new value of the swap for Reynolds Co.

6. Kelly Corporation, a U.S.-based MNC, has a subsidiary in Argentina that produces and sells organic agricultural products. The subsidiary believes it could also enter into the wheat market. The following data has been compiled for the wheat project -in pesos (ARS):

- Initial outlay: ARS 3000 million
- Life of the project: 3 years
- Sales per year: ARS 2800 million
- Cost of Goods per year: ARS 1000 million
- Salvage value: ARS 1100 million
- The maximum annual depreciation allowed is 10% of initial outlay.
- Exchange rate: 100 ARS/USD
- Forecasted exchan0ge rates: $E[S_{t+1}]$ =120 ARS/USD; $E[S_{t+2}]$ =150 ARS/USD; $E[S_{t+3}]$ = 200 ARS/USD.
- The Argentine government imposes a 10% tax on profits.
- The Argentine government also imposes a 20% withholding tax on funds remitted to the U.S. parent house (excluding salvage value).
- The U.S. government imposes a 10% tax on remitted funds, excluding salvage value. No tax credit is allowed.
- The required rate of return is 12%.

i.- What is the evaluation of the project for Kelly's Argentine subsidiary?
ii.- What is the evaluation of the project for Kelly?
iii.- Does Kelly's decision depend on salvage value? (Calculate SV^{BE}.)
iv.- Would you recommend the project to Kelly?

II. CASE (25 points)
These questions are based on the posted Reuters article (July 2, 2024). Briefly answer the following questions:
Note: No points will be given by simply writing lines from the article.

1) According to the article, after the election, there is an increase in political uncertainty in South Africa. What is the effect of this political uncertainty on the South African Country Risk (CR)? Would this increase or decrease the cost of capital for South African companies?

2) Assume the inflation differential between South Africa and the U.S. is 2%. Given the information given in the article, provide an estimate of Country risk for South Africa.

3) Suppose you owned a South African government bond. Following the elections, did the YTM of the bond increase or decrease? What about its price, did it increase or decrease?

4) Given the political instability in South Africa, would international investors buy South African government bonds? Briefly explain.

5) Current yields (YTM) for government benchmark bonds in Kenya are 14.9% in KES (KES = Kenyan Schilling). From looking at this YTM, can you tell if country risk is higher or lower in Kenya than in South Africa? Briefly explain.