**List of potential questions for FIN 5372 midterm exam**

*Note 1: I encourage you to discuss ideas as to how to solve those questions with your peers, so that you can learn from each other. However, I ask that your answers submitted in the exam are kept strictly individual, and not shared with peer students. The list of potential questions is noted below.*

*Note 2: I will select – at random – five questions from the list below for your midterm exam.*

**Class #1: Introduction**

1. Please discuss the five justifications for mergers and acquisitions and note whether each and every one of them is either (1) a transfer of wealth (from target employees, suppliers, or customers to target or acquirer shareholders) or (2) an economic gain to both parties involved. *(Hint: the answer is noted in the notes to the relevant slide set).*
2. Please discuss the recent announcement of the Sonic corporation acquisition by Inspire Brands. In particular, please describe the following: the timeline, the parties, the likely incentives for the buyer to engage into this acquisition (i.e., its likely justification), the likely incentives for the seller to agree to this acquisition (i.e., its likely justification), what are the payment terms of the transaction, what is the structure of the deal, what are the valuation multiples and how do they compare to similar deals’ multiples, what is the announced premium and the merger arbitrage gross spread? *(Hint: please use the document prepared for class discussions, titled “Sonic Inspire Brands Merger Example FIN 5372.docx”).*

**Class #2: Asset Purchases, Stock Purchases & Statutory Mergers**

1. In class, we discussed the *asset* purchase of Acme, whereby the sales price was assumed to be $100 million:

|  |
| --- |
| Tax Effects of Asset Sale by C Corp. |
| Example |   |
| Sale of Assets | $100,000,000 |
| Liabilities Assumed | *$40,299,000* |
| Total Purchase Price | $140,299,000 |
| Tax Basis of Purchased Assets | $85,487,000 |
| Taxable Corp. Income  | $54,812,000 |
| Corp. Tax @ Combined 39% | $21,376,680 |
| Distribution of Cash to Shareholders | $78,623,320 |
| Tax Basis of Shareholders (Assumed) | $20,000,000 |
| Capital Gain of Shareholders | $58,623,320 |
| Shareholder Capital Gain Tax @ 15% | $8,793,498 |
| Net to Shareholders | $69,829,822 |

Assume now that in the negotiations, the Acme has been successful in negotiating price up to $200 million, and the assumption of all liabilities as noted before. Please recalculate the net payment to the shareholders of Acme *(Hint: please follow the same steps as those noted in class).*

1. In class, we discussed the *stock* purchase of Acme, whereby the stock sales price was assumed to be $100 million:

|  |  |
| --- | --- |
| Tax Effects of Stock Purchase |   |
| Total Price for Stock | $100,000,000 |
| Shareholders' Tax Basis | $20,000,000 |
| Capital Gain | $80,000,000 |
| Capital Gain Tax @ 15% | $12,000,000 |
| Net to Shareholders | $88,000,000 |

Assume now that in the negotiations, the Acme has been successful in negotiating price up to $200 million. Please recalculate the net payment to the shareholders of Acme in the stock sale, assuming all other tax attributes as noted in class remain *(Hint: please follow the same steps as those noted in class).*

1. Please discuss the *employment issues* in M&A. In particular, discuss in detail in your answers the following questions:
	1. Who is responsible for WARN Act notification in a stock and in an asset purchase?
	2. Are there any differences between stock and asset purchase in their treatment of collective bargaining agreements in place for the target firm?
	3. Are there any differences between stock and asset purchase in their treatment of qualified retirement plans in place for the target firm?
	4. Are there any differences between stock and asset purchase in their treatment of welfare benefit plans in place for the target firm?

*(Hint: please follow the answers noted in the slide set).*

1. Please discuss the *environmental issues* in M&A. In particular, discuss in detail in your answers the following questions:
	1. Are leased real estate treated differently than owned real estate for the purposes of environmental liabilities?
	2. Please explain the concept of the innocent purchaser defense and its applicability in the context of acquisitions.
	3. How do asset purchases and stock purchases differ in terms of their treatment of environmental issues?

*(Hint: please follow the same steps as those noted in class).*

1. In class we discussed the following example of valuing the goodwill amortization in M&A:

|  |  |  |
| --- | --- | --- |
| Term |  | 15 |
| Cost of debt |  | 0.07 |
| Tax |  | 0.40 |
| Example |  | ($ ) |
| Stock Purchase Price |  | $60,000,000 |
| Purchase Price Allocation | $35,000,000 |
| Goodwill Allocation |  | $25,000,000 |
| Annual Amortization Tax Shield |  | $666,667 |
| Annuity Factor (15 years, 7%) |  | 9.11 |
| Annuity PV |  | $6,071,943 |

Now, assume that the tax rate is 35% and that the cost of debt is 10%. What will be the value of present value of the anticipated amortization deductions?

1. In this question we revisit the example of Acme stock purchase vs. Acme asset purchase with the following *alternative* assumptions (i.e., everything else is assumed the same): (i) marginal corporate tax rate for Acme is 10% and (ii) capital gains tax rate for Acme shareholders is 20% and (iii) the purchase price is $200 million (so therefore the gross consideration offered to shareholders of Acme is $200 million net of assumed liabilities of $40,299,000). Please answer the following questions and show your calculations (in Excel):
	1. Please calculate the net value to shareholders of Acme if they sell using an asset purchase.
	2. Please calculate the net value to shareholders of Acme if they sell using a stock purchase.
	3. Please calculate the PV of the tax shield generated by the amortization of the goodwill. Please assume for the purposes of this question that the difference between the purchase price and the book value of assets is 100% allocated to goodwill. Please further assume a 4% discount rate in evaluating the present value of the goodwill generated tax shields.
	4. Given the above calculations, which transaction structure (asset purchase or stock purchase) would you recommend to the buyer? Which transaction structure would you recommend to the seller?

*(Hint: please follow the same steps as those noted in class).*

1. Please answer the questions below:
	1. What is the difference between an asset purchase and a stock purchase? Please explain.
	2. What is the difference between stock purchase and statutory merger? Please explain.
	3. What is meant by a Zens transaction in the context of a stock purchase, and when can it be used? Please explain.
	4. Are there any appraisal rights for Delaware-incorporated firm’s shareholders when such firm is acquired via a stock purchase? Are there any appraisal rights for Delaware-incorporated firm’s shareholders when such firm is acquired via an asset purchase? Please explain.
	5. Can goodwill be amortized for tax purposes in a stock purchase? Can goodwill be amortized for tax purposes in an asset purchase? Please explain.
	6. What is the definition of a tender offer?
	7. Please discuss the three methods of acquisition of a public company and explain the differences among those.

*(Hint: please follow the answers noted in the slide set).*

**Class #3: Valuation**

1. *Lube & Auto* is merging with *Gianni Cosmetics* and the deal characteristics are presented below:

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Lube & Auto** |  | **Gianni Cosmetics** |
| Firm Value | $100  |  | $150  |
| Debt Face Value | $80  |  | $50  |
| Debt Maturity | 10 |  | 10 |
| St. Dev. Firm Value | 40.00% |  | 50.00% |
|  |   |  |   |
| Share of assets in survivor | **0.4** |   | **0.6** |
|  |   |  |   |
| Correlation b/n CFs | **0.1** |   |  |
| Option Price Values |  |  |  |
|  |   |  |   |
| Equity Value in Firm | $75.90  |   | $134.50  |
|  |   |  |   |
| Debt Value in Firm | **$24.10**  |   | **$15.50**  |

Using the file *“Topic #3 (Co-Insurance Example).xlsx”* posted on Canvas:

1. Please calculate the value of equity and the value of debt for the combined firm.
2. Please calculate the debt yield

*(Hint: please use the embedded Excel option value calculator in that Excel file, following the steps we used in class).*

1. You are presented with the following estimates of the cost synergies of a merger (this was the example we went over in class from Bruner book; it is also posted as an Excel spreadsheet on Canvas):

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year |  | **0** | **1** | **2** | **3** | **4** | **5** |
|  |  |  |  |  |  |  |  |
| Pre-Tax Cost Savings, Constant US$ |  |  |  $ 50  |  $ 100  |  $100  |  $100  |  $ 100  |
| Expected Inflation Rate |  |  | 2% | 2% | 2% | 2% | 2% |
| Growth Rate FCFF (nominal), perpetuity | *2%* |  |  |  |  |  |  |
| Discount Rate | *6%* |  |  |  |  |  |  |
| Ongoing Investment/Savings (year 3+) | *5%* |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Pre-Tax Cost Savings, Current US$ |  |  |  $ 51  |  $ 104  |  $106  |  $108  |  $ 110  |
| Tax Expense (@ .40) |  |  |  (20) |  (42) |  (42) |  (43) |  (44) |
| After-Tax Cost Savings |  |  |  31  |  62  |  64  |  65  |  66  |
| **Less:** Investment to Realize Savings |  |  $ (1,000) |  |  |  (5) |  (5) |  (6) |
| **Plus:** Disinvestment Associated with the Savings |  |   |  20  |  20  |  10  |  -  |  -  |
| Subtotal |  |  (1,000) |  51  |  82  |  68  |  60  |  61  |
| Continuation Value |  |   |   |   |   |   |  1,548  |
| FCF |  |  $ (1,000) |  $ 51  |  $ 82  |  $ 68  |  $ 60  |  $ 1,609  |
|  |  |  |  |  |  |  |  |
| **NPV Cost Savings** |  | **$428**  |  |  |  |  |  |
| IRR Synergy Investment |  | 15% |  |  |  |  |  |

Now, assume that CFO is performing sensitivity analysis and alters the assumed perpetual growth rate to -10%, and the assumed discount rate to 10%. What will be the NPV of the cost savings? What will be the IRR? Please show your work. *(Hint: please use the Excel spreadsheet “Topic #3 (Valuing Synergies) (Ch11).xlsx” posted on Canvas)*

1. You are presented with the following estimates of the revenue enhancement of a merger (this was the example we went over in class from Bruner book; it is also posted as an Excel spreadsheet on Canvas):

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year |  | **0** | **1** | **2** | **3** | **4** | **5** |
|  |  |  |  |  |  |  |  |
| Revenue Enhancement, *Constant Dollar* |  |  |  $ 100  |  $ 200  |  $ 200  |  $ 200  |  $ 200  |
| Expected Inflation Rate |  |  | 2% | 2% | 2% | 2% | 2% |
| Growth Rate FCF (nominal), in perpetuity | *3%* |  |  |  |  |  |  |
| Discount Rate | *15%* |  |  |  |  |  |  |
| Ongoing Investment/Revenue (year 1+) | *5%* |  |  |  |  |  |  |
| Operating Cost/Revenues | *45%* |  |  |  |  |  |  |
| **PV** Revenue Enhancements |  |  |  $ 102  |  $ 208  |  $ 212  |  $ 216  |  $ 221  |
| Operating Costs Earmark |  |  |  (46) | (94) | (96) | (97) | (99) |
| Tax Expense (@ .40) |  |  | (22) | (46) | (47) | (48) | (49) |
| After-Tax Cost Savings |  |  | 34  | 69  | 70  | 71  | 73  |
| After-Tax Cost Savings |  | $ (400) |  (5) | (10) | (11) | (11) | (11) |
| Plus: Disinvestment for Revenue |  |   | 10  | 5  |  -  |  -  |  -  |
| Subtotal |  | (400) | 39  | 63  | 59  | 61  | 62  |
| Terminal Value |  |   |   |   |   |   | 531  |
| Free Cash Flow |  |  $ (400) | $ 39  | $ 63  | $ 59  | $ 61  | $ 593  |
|  |  |  |  |  |  |  |  |
| **Net Present Value of Cost Savings** |  | **$50**  |  |  |  |  |  |
| **IRR Synergy Investment** |  | **18%**  |  |  |  |  |  |

Now, assume that CFO is performing sensitivity analysis and alters the assumed perpetual growth rate to 0%, and the assumed discount rate to 20%. What will be the NPV of the cost savings? Its IRR? Please show your work. *(Hint: please use the Excel spreadsheet “Topic #3 (Valuing Synergies) (Ch11).xlsx” posted on Canvas)*

1. An investor is considering to purchase a new firm, with (1) assets in place, worth $100 million, and (2) a patented technology. What is the value of the firm, if the implementation of the technology with result in PV of $50 million, will require the investment of $200 million, the uncertainty of the returns from the patented technology (if implemented) is 80% (based on Monte Carlo simulations), the patent protection is for 10 years, and the firm does not anticipate to immediate implement said technology? *(Hint: this is the same example for valuing real options that we discussed in class: however, the cost of implementing the technology is lower; please use the Excel spreadsheet “Topic #3 (Real Option Synergies Valuation) (Ch11).xlsx” posted on Canvas to obtain the value of the firm; please also review the relevant slide notes in the slide sets dedicated to valuation of growth option synergies for a summary of the procedure, as presented in class).*
2. An executive for a NYSE listed firms with dispersed shareholders, none of whom has more control influence than others, is considering the acquisition of three possible firms, which are identical to the buyer, except for the following:

*Firm A: publicly held company with a majority shareholder.*

*Firm B: privately held company with dispersed shareholders.*

*Firm C: buy own company through a leveraged buyout.*

In class, we discussed the scenarios for valuing control and illiquidity for these three potential companies that the executive is consider to acquire. A summary chart of the valuation from class is presented below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Assumptions |  |  |  |  |
| % discount for illiquidity |  | 30% |  |  |
| % premium for control |  | 40% |  |  |
| Size of control block |  | 67% |  |  |
| Base Case VE: marketable & no control asymmetry |  $ 100  |  |  |
| Shares outstanding (#) |  | 100 |  |  |
|   |  | Case A | Case B | Case C |
| Illiquidity? |  | *no* | *yes* | *yes* |
| Control Asymmetry? |  | *yes* | *no* | *yes* |
| Base Case VE: liquid & no control asymmetry |  | $ 100.0  |  $ 100.0  |  $ 100.0  |
| Illiquidity Adjustment  |  | *0%* | *-30%* | *-30%* |
| Illiquidity-Adjusted VE  |  |  $ 100.0  |  $ 70.0  |  $ 70.0  |
|  |  |  |  |  |
| %Premium for control |  | *40%* | *0%* | *40%* |
| Control Block Size |  | *67%* | *0%* | *67%* |
| Control Block Value |  |  $ 93.3  |  $ -  |  $ 65.3  |
| Minority Block Value |  |  $ 6.7  |  $ 70.0  |  $ 4.7  |
| Adjusted VE: control asymmetry & illiquidity |  |  $ 100.0  |  $ 70.0  |  $ 70.0  |
|  |  |  |  |  |
| Control block price/share |  |  $ 1.40  |  $ -  |  $ 0.98  |
| Minority block price/share |  |  $ 0.20  |  $ 0.70  |  $ 0.14  |

Now, assume that executive re-assess the discount for illiquidity to be 3%, while the control premium to be 20%, and that all three firms require a control block of only 51%. Can you please value the control block and the minority block prices, for each of the three firms? *(Hint: please use the Excel spreadsheet “Topic #3 (Liquidity and Control) (Ch15).xlsx” posted on Canvas to prepare your calculations, following the identical steps, presented in class).*

1. Revisiting the example of calculating financial synergies from class, please re-calculate the financial synergy, assuming that the effect of the combination of the two firms will be to reduce the asset beta by 0.3.

*(Hint: please use the Excel spreadsheet ““Topic #3 (Valuing Synergies) (Ch11).xlsx” posted in Canvas, worksheet “Financial Synergies”)*

**Class #4: Financing of M&A**

1. Please discuss the sources of financing available for LBO deals.
2. In class we reviewed the LBO of Acme Co. In it, we structured the deal as follows:

|  |  |
| --- | --- |
| Gross enterprise value:  | $148,528,000 |
| Less Debt:  | - $28,126,000 |
| Plus Excess Cash:  | $5,000,000 |
| **Net Purchase Price to Sellers**  | $125,402,000 |

We then created the “uses of funds” and “sources of funds” charts as follows:

|  |  |
| --- | --- |
| *Uses of Funds* |  |
| Purchase price payable to seller @ closing | $ 125,402,000 |
| Pay off existing target debt | $ 28,126,000 |
| Transaction expenses (2% Enterprise Value) | $ 3,321,500 |
| **TOTAL @ closing** | **$ 156,849,500** |

|  |  |
| --- | --- |
| *Sources of Funds* |  |
| Excess Cash From Seller's Balance Sheet | $ 5,000,000 |
| Senior Secured Debt (Based upon 80% A/R and 50% Inventory) | $ 15,199,000 ($9,876,000 + 5,323,000) |
| Senior Unsecured Debt (Based on 2.5 times of 1st yr. Projected Cash Flow) | $ 54,447,500 |
| Subordinated Convertible Debt | $ 40,000,000 |
| Total from Sources Other Than Equity | $ 114,646,500 |
| Amount of Equity to be Raised | $ 42,203,000 |
| **TOTAL** | **$156,849,500** |

Suppose instead that the buyer assesses an enterprise value of $160,000,000 and anticipates a transaction fee of 1% of enterprise value. What will be the updated deal structure (including net purchase price payable to sellers, sources of funds and uses of funds), assuming that all else remains the same and that the firm cannot raise any more than 40,000,000 in convertible debt?

*(Hint: please refer to relevant lecture slide set.)*

1. In class, we discussed the effect of purchasing an acquirer at a price of $84.30/ share for the following acquirer and target characteristics (net earnings, shares outstanding, EPS, and market prices):

|  |  |  |
| --- | --- | --- |
| **Pre-Merger Data** | **Acquirer** | **Target** |
| **Net Earnings** | $281,500,000 | $62,500,000 |
| **Shares Outstanding**  | 112,000,000 | 18,750,000 |
| **EPS** | $2.51 | $3.33 |
| **Market Price/Share** | $56.25 | $62.50 |

Suppose that the target price is now increased to $100. Can you please re-calculate the post-merger EPS of the combined firm, at the new price, under the three assumed funding structure: (i) stock-for-stock exchange, (ii) all cash, or (iii) cash & stock – in the latter instance, please follow the assumption of the class slides of stock payment of 1 acquirer share and the residual being paid in cash? *(Hint: please follow the steps that we discussed in class and that are presented in the slide set).*

1. In class, we discussed the effect of purchasing an acquirer at a price of $84.30/ share for the following acquirer and target characteristics (net earnings, shares outstanding, EPS, and market prices):

|  |  |  |
| --- | --- | --- |
| **Pre-Merger Data** | **Acquirer** | **Target** |
| **Net Earnings** | $281,500,000 | $62,500,000 |
| **Shares Outstanding**  | 112,000,000 | 18,750,000 |
| **EPS** | $2.51 | $3.33 |
| **Market Price/Share** | $56.25 | $62.50 |

Suppose that the acquisition will generate a revenue enhancement synergy that will result in incremental net earnings of $10,000,000 (incremental to the surviving corporation of the union of the buyer and the seller). Can you please re-calculate the post-merger EPS of the combined firm, assuming the target price stays the same, under the three assumed funding structures: (i) stock-for-stock exchange, (ii) all cash, or (iii) cash & stock – in the latter instance, please follow the assumption of the class slides of stock payment of 1 acquirer share and the residual being paid in cash? *(Hint: please follow the steps that we discussed in class and that are presented in the slide set).*

**Class #4: Contingent Payments in M&A**

1. In class we presented a potential sale of a private firm to a private equity firm. In it, we illustrated the use of *an installment note* to pay for the transaction. Please discuss the example. Why is the use of the installment note necessary?

*Hint: please refer to the relevant slide set, dedicated to installment notes, that is posted on Canvas.*

1. In class, we have examined the mechanism of an earnout. Suppose that a buyer (A) and a seller (T) are contemplating a transaction with the following private valuations, causing them to disagree on the price.

Seller’s valuation:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | **SELLER** |  |  |  |  |
| **Base Year Sales** |  |  |  $10,000  |  |  |  |  |  |  |
| **Earnout Period, in Years** |  | 5 |  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** |
|  |  |  |  |  |  |  |  |  |  |  |
| **Sales** |  |  |  |  |  |  $ 11,000  |  $ 12,100  |  $ 13,310  |  $ 14,641  |  $ 16,105  |
|  | Growth Rate |  | 10% |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Operating Income** |  |  |  |  |  $ 1,100  |  $ 1,210  |  $ 1,331  |  $ 1,464  |  $ 1,611  |
|  | Profit Margin |  | 10% |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Earnout Target** |  |  |  |  |  $ -  |  $ -  |  $ -  |  $ -  |  $ -  |
| **Annual Earnout**  |  |  |  |  |  $ 1,100  |  $ 1,210  |  $ 1,331  |  $ 1,464  |  $ 1,611  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  | **PV(Earnout)** |  |  |  |  |  |  |  |  |
|  |  | **Discount @** |  | 10% |  |  **$ 5,000**  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  | **$ at Closing** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  | **Valuation Total Payment** |  |  **$ 5,000**  |  |  |  |  |

Buyer’s valuation:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | **BUYER** |  |  |  |  |
| **Base Year Sales** |  |  |  $10,000  |  |  |  |  |  |  |
| **Earnout Period, in Years** |  | 5 |  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** |
|  |  |  |  |  |  |  |  |  |  |  |
| **Sales** |  |  |  |  |  |  $ 10,500  |  $ 11,025  |  $ 11,576  |  $ 12,155  |  $ 12,763  |
|  | Growth Rate |  | 5% |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Operating Income** |  |  |  |  |  $ 525  |  $ 551  |  $ 579  |  $ 608  |  $ 638  |
|  | Profit Margin |  | 5% |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Earnout Target** |  |  |  |  |  $ -  |  $ -  |  $ -  |  $ -  |  $ -  |
| **Annual Earnout**  |  |  |  |  |  $ 525  |  $ 551  |  $ 579  |  $ 608  |  $ 638  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  | **PV(Earnout)** |  |  |  |  |  |  |  |  |
|  |  | **Discount @**  |  | 10% |  |  **$ 2,179**  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  | **$ at Closing** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  | **Valuation Total Payment** |  |  **$ 2,179**  |  |  |  |  |

Your task is to design an earnout contract that is acceptable to both A & T. In particular, please indicate the earnout dollar targets for years #1 through #5 and the cash component of price consideration to seller so that the two parties can agree on effectuating this transaction.

*Hint: please use the “Topic#4 (Earnout) (Ch 22).xlsx” spreadsheet posted on Canvas.*

1. In class we discussed the exchange ratio model choice in the P/E model of Larson and Gonedes (1969) that provides us with maximum acceptable exchange ratio for the buyer (ERB) and a minimum acceptable exchange ratio for the seller (ERT). Now, suppose we have the following deal valuation:

|  |  |
| --- | --- |
| P/E Model Assumptions |  |
| Buyer Share Price | PB |  $ 60  |
| Target Share Price | PT |  $ 30  |
| Buyer Net Income | EB |  $ 300  |
| Target Net Income | ET |  $ 250  |
| NI Synergies | ESYN |  $ 100  |
| Buyer Shares Out | SB | 100 |
| Target Shares Out | ST | 100 |
| PECOMB | PECOMB | 15 |

Please calculate the ERB and ERT based on these assumptions. What will be a range of acceptable ER ratios for both parties? What is the PECOMB ratio whereby ERB and ERT are the same (i.e., the break-even PECOMB whereby the win-loss boundaries cross)?

*Hint: please use the formula for the ERB and the formula for ERT noted in the relevant slide set dedicated to exchange ratios in M&A as well as “Topic#4 (Deal Boundaries) (Ch 21).xlsx” posted on Canvas. Please note that the ratios are* $ER\_{B}=\left[\frac{E\_{B}+E\_{T}+E\_{SYN}}{P\_{B}S\_{T}}\right]PE\_{COMB}-\frac{S\_{B}}{S\_{T}}$ *and* $ER\_{T}=\frac{P\_{T}S\_{B}}{PE\_{COMB}\left[E\_{B}+E\_{T}+E\_{SYN}\right]-P\_{T}S\_{T}}$*.*

1. Please answer the following questions:
	1. What is meant by an earnout in a merger or acquisition?
	2. What are the benefits and the costs of having an earnout in a merger or acquisition?
	3. What is the difference between a collar for fixed ER and a collar for floating ER? Please explain.

*Hint: the answers to those questions are contained in the slide set. Note further these were asked as memo questions.*