ACF 302 – Corporate Finance

Workshop Questions – Week 9

Mergers and Acquisitions

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1) Consider two firms, Alpha Corporation and Omega Company. Both corporations will either make £10,000 or lose £4,000 every year with equal probability. The firms' profits are perfectly negatively correlated. If the corporate tax rate is 45%, what are the total expected after-tax profits of both firms when they are two separate firms, assuming no tax-loss carryforwards or carrybacks?

a) Calculate the Expected earnings if the two companies are run as a combined (merged) entity.
b) Consider the same information provided for North and South in point ii), but with positively correlated firm's profits. Calculate the total earnings if they are run separately.

Calculate the total earnings if they are merged when they have positively correlated profits.

2) Your company has earnings per share of £4. It has 1 million shares outstanding, each of which has a price of £40. You are thinking of buying WhiteDot, which has earnings per share of £2, 1 million shares outstanding, and a price per share of £25. You will pay for WhiteDot by issuing new shares. There are no expected synergies from the transaction.

a) If you pay no premium to buy WhiteDot, what will your earnings per share be after the merger?

b) Suppose you offer an exchange ratio such that, at current preannouncement share prices for both firms, the offer represents a 20% premium to buy WhiteDot. What will your earnings per share be after the merger?

c) What explains the change in earnings per share in part (a)? Are your shareholders any better or worse off?

d) What will your price-earnings ratio be after the merger (if you pay no premium)? How does this compare to your P/E ratio before the merger? How does this compare to WhiteDot premerger P/E ratio?

3) Sol has earnings per share (EPS) of £2.70, 3.8 million shares outstanding, and a share price of £31. Sol is considering buying Luna Industries, which has earnings per

share of £2.20, 1.8 million shares outstanding, and a share price of £18.5. Sol will pay for Luna by issuing new shares. There are no expected synergies from the transaction. Assume that Sol pays no premium to acquire Luna.

a) Calculate Sol's price-earnings (P/E) ratio pre-merger.
b) Calculate Sol's total number of shares in the new merged firm.
c) Calculate the total earnings of the merged firm.
d) Calculate the EPS of the merged firm.
e) Calculate the price-earning (P/E) ratio post-merger

4) The NFF Corporation has announced plans to acquire LE Corporation. NFF is trading for £35 per share and LE is trading for £25 per share, implying a premerger value of LE of approximately £4 billion. If the projected synergies are £1 billion, what is the maximum exchange ratio NFF could offer in a stock swap and still generate a positive NPV?

5) ExpensiveCo has earnings per share of £2. It has 9 million shares outstanding and is trading at £19 per share. ExpensiveCo is thinking of buying CheapCo, which has earnings per share of £1.25, 5.2 million shares outstanding, and a price per share of £13. ExpensiveCo will pay for CheapCo by issuing new shares. There are no expected synergies from the transaction. If ExpensiveCo offers an exchange ratio such that, at current pre-announcement share prices for both firms, the offer represents a 22% premium to buy CheapCo,

i. Calculate the price per share of the combined corporation after the merger.

ii. What is the price per share of the ExpensiveCo immediately after the announcement?

iii. What is the price per share of the target company immediately after the announcement?

6) ABC has 1 million shares outstanding, each of which has a price of £20. It has made a takeover offer of XYZ Corporation which has 1 million shares outstanding and a price per share of £2.50. Assume that the takeover will occur with certainty and all market participants know this. Furthermore, there are no synergies to merging the two firms.

a. Assume ABC made a cash offer to purchase XYZ for £3 million. What happens to the price of ABC and XYZ on the announcement? What premium over the current market price does this offer represent?

b. Assume ABC makes a stock offer with an exchange ratio of 0.15. What happens to the price of ABC and XYZ this time? What premium over the current market price does this offer represent?

c. At current market prices, both offers are offers to purchase XYZ for £3 million. Does that mean that your answers to parts (a) and (b) must be identical? Explain.

7) BuyingCo has earnings per share of £1.8. It has 8 million shares outstanding and is trading at £17 per share. BuyingCo is thinking of buying Selling Ltd., which has earnings per share of £1.35, 5 million shares outstanding, and a price per share of £12.28. BuyingCo will pay for Selling Ltd.by issuing new shares. There are no expected synergies from the transaction.

Part I) If BuyingCo pays **no premium** to acquire Selling,

a) what will the earnings per share be after the merger?
b) Calculate BuyingCo's P/E ratio both pre and post merger.

Part II) If BuyingCo offers an exchange ratio such that, at current pre-announcement share prices for both firms, **the offer represents a 20% premium** to buy Selling Ltd.

a) What is the price per share of the combined corporation after the merger?
b) What is the actual premium BuyingCo will pay?

8) Berlina Corp. has 8.5 million shares outstanding, and a share price of £21. Berlina Corp. is considering buying Cambridge Industries, which has 6.2 million shares outstanding, and a share price of £14. There are no expected synergies from the transaction.
Berlina Corp. offers to pay for Cambridge by issuing new shares. The offer consists of an exchange ratio of 0.83 shares of Berlina Corp for each share of Cambridge.

a) Calculate the price per share of the combined corporation.

b) What is the price per share of Berlina Corp. immediately after the announcement?

c) What is the price per share of Cambridge immediately after the announcement?

d) Calculate the premium actually paid by Berlina Corp. to acquire Cambridge Ind.

9) You work for a leveraged buyout firm and are evaluating a potential buyout of UnderWater Company. UnderWater's stock price is £20, and it has 2 million shares outstanding. You believe that if you buy the company and replace its management, its value will increase by 40%. You are planning on doing a leveraged buyout of UnderWater, and will offer £25 per share for control of the company.

a. Assuming you get 50% control, what will happen to the price of non-tendered shares?
b. Given the answer in part (a), will shareholders tender their shares, not tender their shares, or be indifferent?
c. Assuming you get 50% control, what will be your gain from the transaction be?

MCQs

1) Fill in the blank in the following sentence:

In a ________ merger, the target and the acquirer operate in unrelated industries.

a) Vertical
b) Conglomerate
c) Horizontal
d) Diagonal

2) Which of the following statements is FALSE?

A) Cost-reduction synergies are hard to predict and achieve and rarely argued as a reason to pursue a merger or acquisition.

B) Small firms are often able to react in timely way to changes in the economic environment.

C) Synergies usually fall into two categories: cost reductions and revenue enhancements.

D) There may also be costs associated with size of the merged firm.

3) When target shareholders exchange their old stock for new stock in the acquiring firm, this is known as a(n):

A) exchange swap.
B) stock swap
C) term swap.
D) stock exchange.

4) Which of the following statements regarding monopoly mergers is FALSE?

A) It is often argued that merging with or acquiring a major rival enables a firm to substantially reduce competition within the industry and thereby increase profits.
B) Financial researchers have found that the share prices of other firms in the same industry did not significantly increase following the announcement of a merger within the industry.
C) While only the merging company benefits when competition is reduced, all companies in an industry pay the associated costs.
D) Society as a whole bears the cost of monopoly strategies, so most countries have

antitrust laws that limit such activity.

5) Which of the following statements regarding risk arbitrage is FALSE?

A) Once a tender offer is announced, the uncertainty about whether the takeover will succeed reduces the volatility of the stock price. This uncertainty creates an opportunity for investors to speculate on the outcome of the deal without bearing the risk of volatility.

B) Traders known as risk-arbitrageurs, who believe that they can predict the outcome of a deal, take positions based on their beliefs.

C) A potential profit arises from the difference between the target's stock price and the implied offer price, and is referred to as the merger-arbitrage spread.

D) It is not true arbitrage because there is a risk that the deal will not go through. If the takeover did not ultimately succeed, the risk-arbitrageur would eventually have to unwind his position at whatever market prices prevailed.

6) Which of the following statements is FALSE?

A) The takeover market is also characterized by merger waves—peaks of heavy activity followed by quiet troughs of few transactions.

B) Merger activity is greater during economic contractions than during expansions.

C) There are two primary mechanisms by which ownership and control of a public corporation can change: Either another corporation or group of individuals can acquire the target firm, or the target firm can merge with another firm.

D) Mergers and acquisitions are part of what is often referred to as "the market for corporate control."

Revision questions

- Explain how tax savings from operating losses can be used as a motivation for a merger in certain cases.

- If you are planning an acquisition that is motivated by trying to acquire expertise, what are you trying to gain? What concerns would you have in structuring the deal and the post-merger integration that would be different from the concerns you would have when buying physical capital?

- Explain in detail the following reasons to acquire: efficiency gains , tax savings from operating losses and earnings growth.

- What are the common reasons argued to engage in an acquisition.

- Explain in detail what is meant by levered buyout (LBO).

- Explain what is a stock swap transaction and what is the exchange ratio.