FINA1082 – FINANCIAL MANAGEMENT

Mergers and Acquisitions

Tutorial for Lecture 14

A. Short Answer Questions

A1.

This is an interesting question that centres on the source of the information. If you obtain the information from someone at Backwoods Chemical whom you know has access to this valuable information and is breaching a fiduciary obligation by telling you, then you are guilty of insider trading if you act upon the information. However, if you come across the information as a result of analysis you have done or research you have performed (which anyone could have done, but did not do), then you are free to act upon the information.

A2.

Suppose the stand alone market value of a target firm is $150 million and the value of the firm to a strategic buyer is $200 million (that is, there are $50 million in synergies). If the probability of a merger is 70%, then the market value of the firm pre-merger could be:

$$(\$150 \times 0.3) + (\$200 \times 0.7) = \$185 \text{ million}$$

If the acquiring managers add the $50 million in synergies to the $185 million market value, they will overestimate the value of the acquisition and set the reserve price too high.

A3.

a. This is a version of the diversification argument. The high interest rates reflect the risk inherent in the volatile industry. However, if the merger allows increased borrowing and provides increased value from tax shields, there may be a net gain.

b. The P/E ratio does not determine earnings. The efficient markets hypothesis suggests that investors will be able to see beyond the ratio to the economics of the merger.

c. There will still be a wealth transfer from the acquiring shareholders to the target shareholders.

A4.

A fall in the euro relative to the dollar is not sufficient cause for a takeover by a U.S. company. The cost of the takeover falls, but the value of a European company's (euro) earnings should fall proportionally. Merger gains (synergies) may or may not increase when the euro falls. If the U.S. company is convinced that the euro is undervalued relative to the dollar, then it can simply buy Euros in the market for foreign exchange. No need to buy a European company.

B. Problems

B1.

a.   Use the perpetual growth model of stock valuation to find the appropriate discount rate (r) for the common stock of Plastitoys (Company B):

$$P = \frac{D_1}{k_e - g} = \frac{0.80}{k_e - 0.06} = 20 \implies k_e = 0.10 = 10.0\%$$

Under new management, the value of the combination (AB) would be the value of Leisure Products (Company A) before the merger (because Company A's value is unchanged by the merger) plus the value of Plastitoys after the merger, or:

$$PV_{AB} = (1,000,000 \times \$90) + 600,000 \times \left(\frac{\$0.80}{0.10 - 0.08} \right) = \$114,000,000$$

Notice that under new management the growth rate changes to 8%

We now calculate the gain from the acquisition:

$$Gain = PV_{AB} - (PV_A + PV_B)$$

$$PV_B = 600,000 * \$20 = 12,000,000$$

$$Gain = \$114,000,000 - (\$90,000,000 + \$12,000,000) = \$12,000,000$$

b.   Because this is a cash acquisition:

Cost = Cash Paid – PV_B = (\$25 × 600,000) – \$12,000,000 = \$3,000,000

c. Because this acquisition is financed with stock, we have to take into consideration the effect of the merger on the stock price of Leisure Products.

A shareholder than owns 3 Plastitoy shares can buy 1 new share of Leisure

Therefore for 600,000 shares of Plastitoy there will be 200,000 new shares in Leisure.

Recall that Leisure already had 1,000,000 shares

Therefore in total we will have 1.2 million shares of the merged company

After the merger, there will be 1,200,000 shares outstanding. Hence, the share price will be:

Present value of AB / total shares of AB

$= \$114,000,000/1,200,000 = \$95.00$

Therefore:

The new shareholders (Plastitoy) have been allocated shares currently valued at \$95. Therefore this is the price paid per share for each of the 200,000 shares

$Cost = Payment - PV_B$

$Cost = (\$95 \times 200,000) - (\$20 \times 600,000) = \$7,000,000$

It costs more for a share offer than a cash offer - by 4 million extra.

d. If the acquisition is for cash, the cost is the same as in Part (b), above:

$Cost = \$3,000,000$

If the acquisition is for stock, the cost is different from that calculated in Part (c). This is because the new growth rate affects the value of the merged company. This, in turn, affects the stock price of the merged company and, hence, the cost of the merger. It follows that:

$PV_{AB} = (\$90 \times 1,000,000) + (\$20 \times 600,000) = \$102,000,000$

The new share price will be:

$\$102,000,000/1,200,000 = \$85.00$

Therefore:

$$\text{Cost} = (\$85 \times 200{,}000) - (\$20 \times 600{,}000) = \$5{,}000{,}000$$

The cost to the acquirer is less when the growth rate is maintained.

B2

a.   We complete the table, beginning with:

$$\text{Total market value} = \$4{,}000{,}000 + \$5{,}000{,}000 = \$9{,}000{,}000$$

$$\text{Total earnings} = \$200{,}000 + \$500{,}000 = \$700{,}000$$

Earnings per share equal to \$2.67 implies that the number of shares outstanding is: Total Earnings /EPS = (\$700,000/\$2.67) = 262,172.

The price per share is:

Total Market value / Number of shares = (\$9,000,000/262,172) = \$34.33

The price-earnings ratio is: (\$34.33/\$2.67) = 12.9

b.World Enterprises issued (262,172 – 100,000) = 162,272 new shares in order to take over Wheelrim and Axle, which had 200,000 shares outstanding. Thus, (162,172/200,000) = 0.81 shares of World Enterprises were exchanged for each share of Wheelrim and Axle.

c.   World Enterprises paid a total of (162,172 × \$34.33) = \$5,567,365 for a firm worth \$5,000,000. Thus, the cost is:

$$\$5{,}567{,}365 - \$5{,}000{,}000 = \$567{,}365$$

d.   The change in market value will be a decrease of \$567,365.