7 Acquisition Pricing Policy

Introduction

In Part Three we explained how private investors and financial institutions analyse share price listings based on valuation theories that encompass dividends (the yield and cover) and earnings (the P/E ratio) to implement their trading decisions (*i.e.*" buy, sell or hold").

Part Four began by applying these dynamics to the corporate sector and the specific case of a firm seeking a stock exchange listing and market valuation. We shall now analyse the most important trading decision undertaken by a listed company: namely *the takeover of one firm by another*.

Based on your reading of Chapters' Ten to Twelve of *CVT* and its referenced research, the objectives of our final Exercises are to:

- Illustrate why the commercial rationale for takeover activity should be based on wealth maximisation criteria, measured by a significant improvement in long-term earnings after an acquisition.
- Derive a *going-concern valuation* for one company (the "target") by another (the "predator") as a basis for acquisition.
- Demonstrate why the target company's going-concern capitalisation of future earnings (and bid price per share) prepared by the predatory company should exceed a corresponding current valuation of the target's net assets (which in turn should exceed its Balance Sheet figures).
- Explain why the difference between the two valuations and the price paid for "goodwill" should not be so highly valued (risky) as to invalidate the takeover.

Exercise 7.1: A "Suspect" Takeover Valuation

W. Stripes plc has completed an *objective* analysis of its strategic capabilities and decided upon a potential acquisition as the most viable means of achieving its goal, namely diversification. The chosen "target" is a "blue chip" company, Ozzy plc, whose background data you are already familiar with from Chapter Five. This company currently earns a "normal" return for its sector, although its current share price has been adversely affected by a recent "profit warning" and the wider economic recession.

For simplicity, we shall assume that Stripes' motivation for the takeover is not only rational but also *cash* based. So, borrowing *(leverage*) is not an issue.

The acquisition investment profile prepared by Stripes is summarised as follows:

Target Data (pre-acquisition):		Predatory Data (post-acquisition):	
Nominal Share Capital (£1.00)	£100m	Net Asset Revaluation	£200m
Profit after Tax	£5m	Return on Assets	10 %
Market Capitalisation of Equity	£75m	Assimilation of Goodwill	5 years

The pre-acquisition data conforms to the table you were asked to derive at the end of Chapter Five for future reference.

Required:

Having read Part Four of the *CVT* text, prepare a financial report for Stripes that contains:

1. A summary of the *objective* and *subjective* motivational factors that underpin takeover activity.
2. A range of bid prices per share for Ozzy plc as a *going concern*, with reference to a:
- Net asset valuation
- Goodwill valuation
- Profitability valuation
3. A brief commentary on your findings
4. A risk assessment based on your valuations
5. Any recommendations

An Indicative Outline Solution

1. Motivational Factors
   An *objective* analysis of any prospective acquisition should be based on *rational* managerial objectives underpinned by shareholder wealth maximisation criteria. Hopefully, these will be confirmed subsequently, by a significant improvement in the predator company's long-term earnings post-acquisition. Chapter Nine of *CVT* explains how this requires a comprehensive valuation based on the following strategic considerations prior to take-over activity.

Business Resource Influence

However, all too often, the *agency principle* breaks down because *subjective* managerial motives associated with an acquisition take precedence over commercial objectives, notably management's pursuit of:

Growth Prestige Security

And as we observed in *CVT* (Chapter Nine) the history of corporate takeovers revealed by the academic literature illustrates the extent to which these policies lead to financial disaster.

With regard to Stripes strategy, diversification can vary its activities. It is always sensible to avoid "putting all your eggs in one basket". But will this add value and create shareholder wealth?

If you have read the bookboon text "Portfolio Theory and Financial Analyses" (2010) or any others by the author on the subject (see the references at the end of this Chapter) you will be aware that diversification can help management in one of two ways.

Academic studies reveal that diversification has the potential to provide:

- The same return on investment as before, but with less risk.
- Higher returns than before, for the same risk.

Unfortunately, diversification isn't simply a question of investors buying more shares to add to their portfolio, or of one company acquiring another. "Efficient" diversification arises from researching individual shares, or companies, with different returns from different business activities that perform well at different points in the economic cycle.

The key to profitable risk- return diversification requires genuinely different sources of income. Hopefully, Stripes has researched this?

2. A Bid Price per Share
   An offer for Ozzy's shares, currently trading at 75 pence (25 pence below nominal value because of a profit warning and recession), depends on three factors researched by Stripes:

- The minimum purchase price of net tangible assets,
- Evidence of goodwill,
- The total profitability of the business.

Using equations with the same numbering from *CVT* (Chapters Ten and Eleven) where appropriate, the corresponding valuations are calculated as follows

(i) **Minimum Valuation** (net tangible assets)

With 100 million shares in issue and a net tangible asset revaluation of £200 million we can derive a bid price of:

£200m /100m = **£2.00 per share**

(ii) **Goodwill Valuation** (capitalisation of super profits)

From Chapter Ten, the value of goodwill is represented by the right-hand term in the following *going concern* equation

(23) $V = A + [(P - rA) / m]$ Subject to $m > r$

Where:

V	=	going concern value of the business
A	=	value of net tangible assets
P	=	expected profits per annum
r	=	normal rate of return
P - rA	=	superprofit
m	=	capitalisation rate of surperprofit
(P - rA) / m	=	value of goodwill

The value term for goodwill can also be rewritten from a conventional accounting perspective in terms of its useful life.

(24) $V = A + [(P - rA) / (1/m)]$ Subject to $m > r$

Where:

(1/m)= a number of years purchase of superprofit

Using the acquisition investment profile prepared by Stripes, we can therefore derive:

Goodwill computation: (P - r A) / m

Post-acquisition profit: 10% on £200m £20.0 m

Less *normal* profit (given)	£ 5.0 m
Super profit	£15.0 m
Capitalised at 20% (i.e. 5 years purchase)	£75.0 m

Going concern valuation: V = A + (P - r. A) / m

V = £200m + (£20m - £5m) / 0.2 = £275 million

With 100 million shares in issue we can derive the following bid price:

£275m /100m = **£2.75 per share**

(iii) **Profitability Valuation:** (capitalisation of future earnings)

If we assume that profits are constant in perpetuity, the going-concern value of a target company can be defined using two equations from Chapter Eleven, depending on the data available:

(25) $V = \Pi(1 - t) \times P/E$

(26) $V = \Pi (1 - t) / K_e$

Where:

V = going concern value of the business
Π = expected profits at the valuation date
t = rate of corporation tax
P/E = price-earnings ratio
K_e = earnings yield

If profits grow at a constant rate in perpetuity (g) we can also rewrite Equation (26) using the constant growth formula explained in Part Two, based on anticipated post-tax earnings one year after takeover:

(27) $V = [\Pi (1 - t)] (1 + g) / K_e - g$ subject to the proviso that $K_e > g$ for V to be finite.

Using the information prepared by Stripes, which ignores growth, we can therefore apply Equation (26) to capitalise post-acquisition profit at 10% as follows

$V = \Pi (1 - t) / K_e$ = £20 m / 0.10 = £200m

And dividing by the 100 million shares in issue, we can derive the following bid price:

£200m /100m = **£2.00 per share**

3. Commentary

   Ozzy's mediocre stock market performance (confirmed by the £25 million shortfall between the market capitalisation of equity and nominal value) may explain why the asset revaluation prepared by Stripes, not only exceeds the market capitalisation, but also equals the profitability valuation. But why does the *going concern* value (using net assets plus "goodwill") exceed the *profitability* valuation (which is based on the assets' earning power capitalised at the post-acquisition rate of return)?

   Moreover, what is so special about the company's *intangible* assets to justify their acquisition at such a high-risk price? Note that the capitalisation rate of superprofit (m = 20 per cent) is twice the normal rate of return (r = 10 per cent).

4. A Risk Analysis

   The *tangible* assets are important in any managerial risk assessment of corporate takeover. If the net assets divided by the market capitalisation of profits "cover" the price of investment significantly (*i.e.* the *asset backing* is high) or its reciprocal (the *valuation ratio*) is greater than one, this may compensate for corporate failure post-acquisition if the assets need to be sold off.

   You will recall from *CVT* (Chapter Eleven) that the purchase value of tangible assets relative to a profitability valuation (asset backing) is measured by the following equation:

(28) Cover = Net asset valuation /Profitability valuation

The acquisition can also be assessed by the *reciprocal* of cover, using the *valuation ratio*

(29) Valuation ratio = Profitability valuation / Net asset valuation

Using the target data, we can evaluate the asset cover and valuation ratio if Stripes is willing to pay a capitalised profit figure of £200m for assets valued at £200m as follows:

- Cover = Net asset valuation /Profitability valuation = 1.0
- Valuation ratio = Profitability valuation / Net asset valuation = 1.0

The value of the tangible assets (*asset backing*) completely covers the profitability valuation

The acquisition can also be justified (but only just) since the profit earning capacity of the business equals the net assets as evidenced by the reciprocal of the cover: namely the *valuation ratio*.

5. Conclusion
   As mentioned earlier, if a profit valuation equals a net asset valuation, the question predatory management must answer is where is the goodwill? We suggested earlier in this text (see the Summary and Conclusions to Chapter Five) that perhaps Ozzy plc is worth more "dead than alive" and only ripe for *asset stripping*.

   Stripes could definitely make an initial bid that flatters the current share price of 75 pence, moving up to a profitability valuation of £2.00 covered by the assets with little risk. However, beyond this figure, any going concern valuation that incorporates goodwill suggests that the purchase of say a brand name, unsupported by profits, requires:

A radical reassessment of the forecast acquisition data, an allowance for growth, or alternatively a better company to complement Stripes' existing activities

Exercise 7.2: A "Promising" Takeover Valuation

Riding on the back of domestic economic growth, the Mantra Company is an Indian cash-rich conglomerate that wishes to expand its global operations with European facilities.

Through inept management, the highly regarded Rock Company based in the north of England with mining operations throughout the Europe has recently suffered a reversal of fortune. Share price has plummeted, so much so, that Mantra regards their takeover as a perfect fit for its existing activities.

The Balance Sheet for Rock reveals the following:	(£million)
Share Capital: £1.00 ordinary shares	1,200
Reserves	6,432
CAPITAL EMPLOYED	7,632

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Mining property			4,200
Equipment			1,200
Distribution Facilities			900
Vehicles			120
			6,420
Investments			1,050
Current Assets:			1,212
Current Liabilities: Taxation	750		
Creditors	300		
		1,050	
			162
			7,632

As a basis for acquisition, Mantra believes that Rock's post-takeover turnover and profits should be in the region of £33,000 million and £1,500 million, respectively. The company has also prepared the following data relating to the acquisition.

- A 15 per cent incremental return on any new asset investment.
- A five year assimilation of goodwill, equivalent to a 20 per cent return on superprofits.

Rationalisation policies	£million
Sale of equipment	1,263
Sale of investments at market value	1,122
Annual cost savings from sale of equipment	207
New construction costs	630

Required:

1. Prepare a series of bid prices per share, using any assumptions you care to make, based on the information available and the following valuation techniques.
- Tangible assets
- Goodwill
- Profitability

2. Provide a risk assessment of your valuations.
3. Summarise your bid strategy

An Indicative Outline Solution

1. A Range of Bid Prices per Share

(i) **Minimum Valuation** (net asset revaluation)	£million	Assumptions
Mining Property	4,200	Current Valuation
Distribution Facilities	900	Current Valuation
Sale of Equipment	1,263	Realisable Value
Vehicles	120	Current Valuation
Investments	1,122	Current Valuation
Net Current Assets	162	Current Valuation
Total Asset Value	7,767	

With 1,200 million shares in issue and a net tangible asset revaluation of £7,767 million we can derive a minimum bid price of:

£7,767m / 1,200m **£ 6.50 per share** (say)

(ii) Goodwill Valuation (using the capitalisation of superprofits)

Goodwill computation: (P - r. A) / m	£million	Assumptions
Forecast profit per annum	1,500	Given
Less *normal* profit (15% return on £7,767m)	1,165	Incremental return
Super profit per annum	335	
Capitalised at 20% (5 years purchase)	1,675	i.e. m > r

Going concern valuation: V = A + (P - r. A) / m

V = £7,767m + (£1,500m - £1,165m) / 0.2 = £9,442 million

With 1,200 million shares in issue we can derive the following bid price:

£9,442m / 1,200m **£7.90 per share** (say)

(iii) **Profitability Valuation:** (capitalisation of future earnings)

	£million	Assumptions
Forecast profit per annum	1,500	Given
Cost saving per annum	207	Given
Forecast profit per annum	1,707	
Capitalised at 15%	11,380	Incremental return
Add: Sale of equipment	1,263	Given
Sale of investments	1,122	Given
Less: New build	(630)	Given
Total Profitability Valuation	13,135	

So, dividing by the 1,200 million shares in issue, we can derive the following bid price:

£13,135m / 1,200m **£10.95 per share** (say)

2. Risk Assessment
   Although we have no precise information on the current market price for Rock, its mediocre stock market performance explains Mantra's predatory interest. Our range of bid prices per share also reveals an ideal "domino" effect.

The profitability valuation exceeds the going concern valuation (incorporating any remaining goodwill), which is higher than the current market valuation of assets. The latter also exceeds the total Balance Sheet value of assets

However, if profits do not materialise, or the residue of goodwill evaporates post-acquisition, then Mantra may have a problem. Their return on investment will be no more than the realisation of Rock's assets.

To assess the risk of a *worst-case* scenario using the information available, we can compare the purchase value of net tangible assets in relation to a profitability valuation. What is termed *asset backing* can be measured in one of two ways, using either market capitalisation (total value) or bid price per share.

Cover = Net asset valuation /Profitability valuation
Valuation ratio = Profitability valuation / Net Asset valuation

Remember from your previous Exercise that the valuation ratio is the simply the *reciprocal* of the cover. So, we can define (with rounding) the two equations, either in aggregate, or on a per share basis, as follows.

- Market Capitalisation
  Cover: Net Asset Valuation/Profitability Valuation = £7,767m / 13,135m = 60%
  Valuation Ratio: Profitability Valuation/Net Asset Valuation = £13,135m / £7,767m = 1.7

- Bid Price
  Cover: Net Asset Valuation/Profitability Valuation = £6.50 / £10.95 = 60%
  Valuation Ratio: Profitability Valuation/Net Asset Valuation = 1 / Cover = 1.7

The purchase value of Rock's net tangible assets (*asset backing*) only supports sixty per cent of Mantra's profitability valuation. But to access a new market that complements existing activities premised on global growth is a *rational* strategic manoeuvre, particularly if the target company's shares are a bargain buy.

3. A Bid Strategy

Mantra could make an initial bid of £6.50 but a fairer price might be £8.00, if only to flush out other predators. In the event of a "bidding war", price might go higher still. Mantra can bide its time, and progressively up its offer to £11.00. Beyond this, much depends on the strength of its *objective*, strategic pre-planning, attitude toward risk and how the market values Rock's shares

Summary and Conclusions

Having illustrated the methodologies for a number of different share valuation models and evaluated their relative strengths and weaknesses, it is important to emphasise that it is unwise to depend on any one method. Indeed, the juxtaposition of share prices using different models not only provides benchmarks for a bid strategy, but also room for manoeuvre post-acquisition.

For example, we observed in *CVT* (Chapter Ten) that if a takeover is not part of a carefully conceived corporate plan, reflecting factors other than earnings (for example a net tangible asset "break-up" valuation) the predator may inherit a negligible return on investment that is not dissimilar to takeovers premised upon *subjective* managerial goals of growth, prestige and security.

Prospective mergers may also elicit rising expectations on the part of existing shareholders and all other stakeholders of the target company (including, employees, customers, creditors and other financiers) as well as potential investors. And if their ambitions are not fulfilled after the event, any serious demotivation will detract from goodwill. Confidence may evaporate rapidly and the equity price of the acquiring company in its new form will tumble.

At a macro level, the volatility of today's global capital markets and their individual shares, created by serial financial crises, economic recession and political instability, all mean that investors (private, institutional, or corporate) can no longer rely on simple "number crunching".

Every stock market constituent needs a thorough understanding of theoretical share valuation models (whether they be asset, earnings, dividend and cash based) to comprehend the underlying factors that determine their future investment and financial decisions.

Selected References

1. Hill, R.A., *Corporate Valuation and Takeover*, bookboon.com (2011).
2. Hill, R.A., **bookboon.com**.

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