Part I: An Introduction

1 An Overview

Introduction

Having read *Corporate Valuation and Takeover* (2011) or any other texts from the author's bookboon series referenced at the end of this Chapter, you should have a critical understanding of how financial securities and companies are valued. In this free compendium of Exercises we shall reinforce the theory and application of stock market analysis as a guide to further reading.

Armed with the *Corporate Valuation and Takeover* companion text (*CVT* henceforth) you should have no *conceptual* problems with the following material. But remember the concepts need to be *applied* and we live in extremely difficult times where more than ever, past performance may be no guide to the future.

Since the millennium dot.com crash, every year has been dramatic for stock market participants. After a five year "bull" run followed by global banking meltdown in 2007-8, economic recession has seen a number of Western governments (including America) unable to repay their debts and their credit status downgraded.

The subsequent eurozone credit crisis saw the departure of four European prime ministers in late 2011 (Greece, Italy, Ireland and Spain) and the credit rating of Portugal reduced to "junk" status in early 2012. With tighter stock market regulation, increased International Monetary Fund (IMF) and central banking intervention, investors (institutional or otherwise) continue to make provision for massive losses, which imposes a huge restriction on stock market liquidity worldwide.

To reflect these events, we will consider a number of worst case scenarios where appropriate. The Exercises will also compare ideal investment decisions with those to be avoided. But remember these are only *hypothetical* examples.

A Guide to Further Study

To keep up to speed with *real world* events as they unfold, I suggest that you acquire *informed comment* from quality newspapers, financial websites, corporate and analyst reports, plus any topical material that you come across as you trawl the Internet during your studies. Do read share price listings looking for trends based on the stock market ratios explained in *CVT* and summarised in the Appendix to this text (price, yield, cover and the price-earnings ratio).

Focus on a few companies of your choice. Look back over a number of years to get a feel for how they have moved within the context of the market. Pay particular attention to company profit warnings, analyst downgrades, director share dealings, takeover activity and rumour. This research need not be too formidable, particularly if you are studying with friends and have *CVT* for reference.

Modern Finance: A Review

Part One of *CVT* explains why contemporary financial analysis is not an exact science and the theories upon which it is based may even be "bad" science. The fundamental problem is that economic decisions are characterised by *hypothetical* human behaviour in a *real* world of uncertainty. Thus, theoretical financial models may be logically conceived. But all too often, they are based on hypotheses underpinned by *simple assumptions* that rationalise the *complex world* we inhabit with little *empirical support*. At best they may support your conclusions. But at worst they may invalidate your analysis.

Yet as we observed, most modern theorists, academics and analysts still cling to the simplistic *normative* objective of shareholder wealth maximisation based on "rational" investment decisions, premised on NPV maximisation techniques designed to deliver the highest absolute profit. Underpinned by the Separation Theory of Fisher (1930) that assumes *perfect* capital markets, characterised by freedom of information and no barriers to trade:

> Shares are always correctly priced by the market at their true *intrinsic* value. The consumption (dividend) preferences of all shareholders are satisfied by the *rational* managerial investment policies of the company that they own, based on the *agency* principle formalised by Jenson and Meckling (1976).

Even when modern financial theory moves from a risk-free world to one of uncertainty, Fisherian analysis remains the bedrock of rational investment. Statistically, it defines how much return you can expect for a given level of risk, assuming project or stock market returns are linear *random variables* that conform to a "normal" distribution. For every level of risk, there is an investment with the highest expected return. For every return there is an investment with the lowest expected risk. Using mean-variance analysis, the standard deviation calibrates these risk-return trade-offs. Corporate wealth maximisation equals the maximisation of investor *utility* using *certainty equivalence* associated with the expected NPV (ENPV) maximisation of all a firm's projects.

According to Modern Portfolio Theory (MPT) based on the pioneering work of Markovitz (1952), Tobin (1958) and Sharpe (1963) if different investments are combined into a portfolio, management (or any investor) with the expertise can also plot an "efficiency frontier" to select any investment's trade-off according to their desired risk-return profile (utility curve) relative to the market as a whole.

So far so good, but what if capital markets are *imperfect*, information is not freely available and there are barriers to trade? Moreover, what if corporate management and financial institutions pursue their own agenda characterised by short-term goals at the expense of long-run shareholder wealth maximisation, as the previous decade's catastrophic events suggest? Are shares still correctly priced and are financial resources still allocated to the most profitable investment opportunities, irrespective of shareholder consumption preferences. In other words, are markets *efficient* once the agency principle breaks down?

Like all my other texts in the bookboon series, *CVT* suggests they are not. *Post-modern* theorists with their cutting-edge mathematical expositions of speculative bubbles, catastrophe theory and market incoherence, believe that investment returns and prices may be *non- random* variables and that markets *have a memory*. They take a *non-linear* view of society and dispense with the assumption that we can *maximise* anything. Unfortunately, their models are not yet sufficiently refined to provide the investment community with alternative guidance in their quest for greater wealth.

Nevertheless, *post-modernism* serves a dual purpose. First, it justifies why the foundations of traditional finance may indeed be "bad science" by which we mean that theoretical investment and financing decisions are all too often based on simplifying assumptions without any empirical support. Second, it explains why the investment community still works with *imperfect theories*. As a consequence, it reveals why they should always interpret their results with caution and not be surprised if subsequent events invalidate their conclusions.

Exercise 1: Corporate Valuation and Takeover: A Review

We have seriously questioned the traditional assumptions of *perfect* markets, the *agency* principle and the strength of real world *efficiency* that underpin comparative analyses of supposedly *random* prices and returns by *rational*, risk-averse investors. Nevertheless, they still provide indispensible, theoretical benchmarks for any framework of investment, postmodern or otherwise, first formalised as the Efficient Market Hypothesis (EMH) by Eugene Fama (1965)

Required:

Because of its pivotal role in the remainder of this study, you should refer to the details of the EMH explained in Part One of *CVT* and before we proceed:

Briefly define "efficiency" and consider the implications of the EMH for the purposes of valuation and takeover.

An Indicative Outline Solution

Shareholder wealth maximisation is based upon the economic law of supply and demand in a capital market that may not be perfect but reasonably efficient (i.e. not weak).

Efficiency and its strength (weak, semi-strong or strong) are determined by the increasing speed with which the stock market and its participants assimilate new information into the price of financial securities, such as a share.

Historical evidence suggests that investor decisions and government policies are based on the assumption of *semi-strong* efficiency. Hence, the absence of tight market regulation.

Rational investors respond rationally to new information (good, bad or indifferent) and buy, sell, or hold shares in a market without too many barriers to trade.

The market implications of the EMH relevant to valuation and takeover can be summarised as follows:

- If efficiency is semi-strong, or strong, speculative investment is pointless without the advantage of "insider" information.
- In the short term "you win some and you lose some".
- In the long run, you cannot "beat the market". Investment is a *zero sum game* that delivers returns appropriate to their risk, i.e. what theorists term a "martingale".
- Yesterday's trading decisions based on prices and returns are independent of today's state of play and tomorrow's investment opportunities.

- If current share prices closely reflect current dividends and future profitability, agency theory can transform shareholder objectives into managerial policy.
- NPV maximisation represents the optimum managerial investment criterion to maximise shareholder wealth.
- New share issues that incorporate a market premium or discount should be based on their "intrinsic" value and ignore *market sentiment*.
- Creative corporate accounting will not fool the market.
- Takeover policies are also a *zero-sum game*, unless predatory corporate management can identify quantifiable synergistic benefits and economies of scale.

Summary and Conclusions

Irrespective of whether markets are efficient, behaviour is rational and prices or returns are random, every investor requires standards of comparison to justify their next trading decision. For example, has a firm's current price, dividend or earnings prospects risen, fallen, or remained the same, relative to the market, its competitors, or own performance over time? And how are they trending?

We have observed that the key to unlocking these questions presupposes an understanding of the nature of stock market efficiency. All the material contained in the *CVT* companion text builds on this and forms the basis of the remainder of this study.

So, let us conclude with a brief summary of the remainder of *CVT* for future reference before you read the following chapters.

Part Two (Chapters Two to Four) evaluates conflicting theoretical share valuation models relative to profitable stock market investment, even if markets are perfect.

Chapter Two presents a sequence of theoretical share price valuation models. Each enables current shareholders, prospective investors and management to evaluate the risk-return profiles of their dividend and earnings expectations and the market capitalisation of equity.

But are dividends and earnings *equally* valued by investors who model share price?

Chapter Three deals explicitly with the *relevance* of the corporate dividend decision based on the pioneering work of Myron J. Gordon (1962). We analysed its impact on current share price, the market capitalisation of equity and shareholders' wealth, determined by the consequences of managerial policies to distribute or retain profits, which stem from their previous investment decisions and search for future investment opportunities.

Chapter Four then introduces an overarching theoretical and empirical critique of the *irrelevance* of dividend policy to the maximisation of shareholder wealth by Modigliani and Miller (MM) whereby:

Dividends and retentions are *perfect economic substitutes* and a firm's distribution policy cannot determine an optimum share price and hence share price maximisation.

Part Three translates conflicting *theories* of share valuation into *practical* terms with reference to *real world* share price listings, based on the *capitalisation of a perpetual annuity*.

Chapter Five explains how stock market data relating to price, dividends (the yield and cover) and earnings (the P/E ratio) are analysed by the investment community, supplemented by other informed sources to implement trading decisions (*i.e.* "buy, sell or hold").

Chapters Six and Seven evaluate various strategies for investment based on dividends, growth and whether we can "beat" the market.

Part Four then applies these market dynamics to corporate investment policies designed to maximise shareholder wealth.

Chapter Eight critically examines the specific case of a firm seeking a stock exchange listing and hence a market valuation for the first time.

Chapter Nine compares and contrasts rational shareholder objectives and various subjective, managerial motives for takeover activity.

Chapters Ten and Eleven analyse a series of comprehensive valuations for companies prey to takeover based on a rational consideration of long-run shareholder profitability compared with the irrational managerial motives of predator companies.

Chapter Twelve concludes our analyses with a survey of the current takeover scene and a guide to investment behaviour based on a number of "golden" rules to investment explained throughout the text.

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Text Books

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Strategic Financial Management: Exercises *(SFME)*, 2009.
Portfolio Theory and Financial Analyses *(PTFA)*, 2010.
Portfolio Theory and Financial Analyses: Exercises *(PTFA)*, 2010.
Corporate Valuation and Takeover, (*CVT*), 2011.

Business Texts

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