Updating Your Study Manual

Instructions for Inserting Version 1.2, 2003

The followings serve as the instructions for updating **Topic 3: Basic Theoretical Aspects of Portfolio Management** of Study Manual 12 for the Licensing Examination for Securities and Futures Intermediaries. Please be reminded that only the updated sections are provided for downloading. You may replace the relevant sections with this updated version for the study manual you possess.

Instructions:

1. Download and print out the following pages.
2. **Remove** pages 3-17 to 3-18 and **Insert** new pages 3-17 to 3-18.

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$r_a = r_f + b_i(r_m - r_f)$

$= 5\% + 0.5 \times 3\%$

$= 6.5\%$

It follows that Security Y should have a current price of HKD9.39 (i.e. HKD10 ÷ 1.065). Supply and demand in the market should force the actual current price towards this level.

Applying the same formula, Security Z should have a current price of HKD9.13 given its expected return of 9.5% (i.e. 5%+1.5x3%) and beta of 1.5.

3.3 The Security Market Line

The Security Market Line (SML) expresses the key theme of CAPM:

> The expected return of a security (or portfolio) comprises a risk free rate plus compensation for taking on additional risk (systemic risk), which is measured by beta.

The SML is a linear relationship, beginning at the risk free rate with an upward slope. The slope indicates that expected returns increase as beta increases. The equation for the SML is the same as that for CAPM and therefore underlies a key assumption of the model: there is a linear relationship between an individual security's return and the average return from all securities in the market. (The SML is in fact a graphical depiction of the CAPM.)

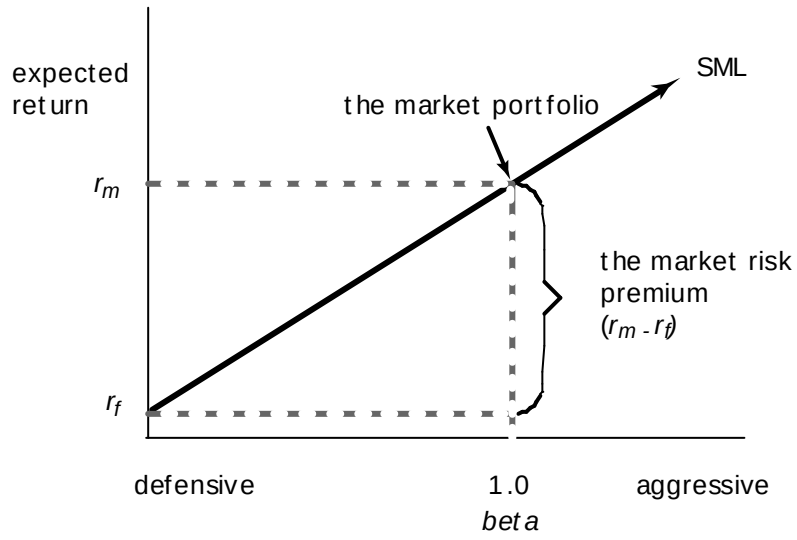

Figure 9: The Securities Market Line

The SML above represents individual securities or portfolios of securities. Each is expected to receive a return commensurate with its beta.

The securities or portfolios lying on the SML are relative to the position of the market portfolio. The market portfolio is the portfolio of all risky assets in the marketplace where each security is held in the same proportion to its market value. (For example, if Hutchison shares are capitalised to HKD 3 billion and the market value of all securities is HKD 300billion, the market portfolio would comprise 1 per cent of Hutchison shares.) As you may anticipate, the market portfolio has a beta of 1.0.

An investor holding the market portfolio, rather than the risk-free security, will be compensated by a return measured by the market risk premium or $(r_m - r_f)$. An aggressive investor will hold a portfolio with a beta greater than the market portfolio (i.e. a beta above 1.0) and subsequently, will expect a return greater than the market. Conversely, a defensive investor will hold a portfolio with a beta less than 1.0.

3.4 Systemic risk

The total risk of a security can be broken into two components the market dependent (known as systemic risk) and market independent (known as unsystemic risk). CAPM assumes there is no unsystemic risk and that the market will pay a risk premium for bearing systemic risk.

Total risk = systemic + unsystemic risk

The table below summarises the key differences between these types of risks.

	Systemic risk	*Unsystemic risk*
Dependent on the market	Yes – also known as market risk	No – also known as non-market risk
Risk events	Fluctuations in the total market's performance	Specific events of the industry and firm have effects on individual share prices
Examples	General economic conditions, impact of monetary or fiscal policies, inflation	Strikes, product development, competition affecting a particular company's project or activity
Diversifiable	Non-diversifiable	Diversifiable
Measurement	Measured in the beta of a security (β_i)	Not measured, assumed zero

Table 1: *Key differences between systemic and non-systemic risk*