Updating Your Study Manual

Instructions for Inserting Version 1.5

The followings serve as the instructions for updating **Topic 6: Financial Risk Management** of Study Manual 7 for the Licensing Examination for Securities and Futures Intermediaries. Please be reminded that only the updated sessions are provided for downloading. You may replace the relevant sessions with this updated version for the study manual you possess.

Instructions:

1. Download and print out the following pages.
2. **Remove** pages 6-9 to 6-10 and **Insert** new pages 6-9 to 6-10.

[Blank Page]

The variance for each security is calculated below.

	Security A		*Security B*	
p_i	r_i	$p_i(r_i - \bar{r})^2$	r_i	$p_i(r_i - \bar{r})^2$
0.1	15	10	10	40
0.8	25	0	30	0
0.1	35	10	50	40
	$\Sigma p_i(r_i - \bar{r})^2 =$	20	$\Sigma p_i(r_i - \bar{r})^2 =$	80

The standard deviation is calculated below:

Security A $\sqrt{20}$ = 4.47%

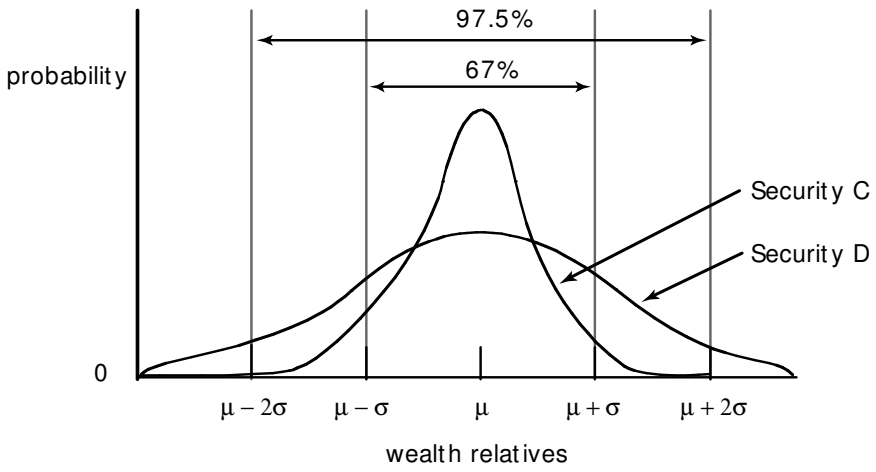
Security B $\sqrt{80}$ = 8.94%

Compared to Security A, Security B has a higher risk for a greater expected return.

3.2.3 The normal distribution curve

The normal distribution curve shows the dispersion of a security's return around the mean (μ) (the average) or expected return.

On the normal distribution curve, the probabilities of deviation around the mean are shown by the standard deviation.



μ = mean (expected value)

σ = *standard deviation*

Figure 2: Normal distribution curve

The above curve shows the distribution curves for two securities with the same mean, μ (e.g. $\mu = 1$). However, Security C has a narrower dispersion (standard deviation, or σ) around the mean (e.g. $\sigma = 0.15$) than Security D's (e.g. $\sigma = 0.3$). General principles of the normal distribution curve are:

- There is a 67% probability of a security yielding a return between $\mu - \sigma$ and $\mu + \sigma$. (For Security C this is a return between 0.85 and 1.15 and for Security D between 0.7 and 1.3.)
- There is a 97.5% probability of a security yielding a return between $\mu - 2\sigma$ and $\mu + 2\sigma$. (For Security C this is a return between 0.7 and 1.3 and for Security D between 0.4 and 1.6.)

The lower standard deviation of Security C means that the likely returns have a tighter cluster around the mean than for Security D. Security D is riskier.

The Basel Committee from the Bank for International Settlements has formulated a framework to assist central banks and monetary authorities with guidelines for the measurement of market and credit risk for financial institutions. This framework and the guidelines are not legally enforceable, however, they are used as recommendations for best practice.

3.2.4 Types of measures used for measuring market risk

As illustrated above, measuring market risk involves mathematical calculations. Detailed discussion on these calculations is beyond the scope of this study manual. However, brief descriptions of the types of measures used include: