

CHAPTER 1: INTRODUCTION

Stocks and bonds are the common capital market instruments for the investors. Generally, stocks give a higher return and is more risky compared to bonds according to the risk-return trade-off theory. Volatility determines the risk facing the investors, the higher the volatility, the more risky is the capital market instrument. It is common that the stock and the bond markets volatility and movement vary substantially over time. Stocks and bonds might move in the same or opposite direction depending on the market condition. Stivers and Sun (2002) find that stock and bond market returns in US tend to move together during periods of lower stock market uncertainty. However, stocks and bonds are of little or negatively correlated during periods of high stock market uncertainty. This explains the notion of flight-to-quality that suggests that during times of increase stock uncertainty, the price of US T-bond tends to increase relative to stocks and the return co-movement between the bonds and stocks is less or even negatively correlated. As such, bonds are normally used to hedge the market risks of the stock market. The stocks-bonds portfolio should give the investor much of the upside of equities while limiting risk, which is a definite plus in today's capital market. A weak or negative correlation between the stock market and bond market returns is expected for bonds to be useful as a risk-hedging tool for stocks. The variation of the bonds – stocks correlation is important for asset allocation. Reilly, Wright and Chan (2000) analysed the changing volatility of the government bond market and examined the relationship between bonds and stocks in the US over a period of 50 years from 1950-1999 and found that the bond and stock market in the US exhibit significant changes in volatility over time. Reilly et al. found that the standard deviation ratio (SDR) between the stock and bond market returns is in the increasing trend, indicating that the volatility of bonds has been increasing faster than the stocks volatility in the US. Besides, it was found that the historical beta for the bond market is in the increasing trend, showing that there has been an overall increase in the risks of bonds relative to stocks.

The Asian financial crisis that hit Malaysia in July 1997 has changed the future of bonds. The Asian share markets were badly hit and most of the Asian share markets dived deeply to the historical-low record. For example, the Malaysia KLSE CI dropped from the peak of 1271.57 points on 25.02.1997 to the valley of 262.70 points on 01.09.1998, which was a sharp drop of approximately 80% of its market capitalization in a year. This caused great capital loss for the investors who invested all their money in the share market. Besides, as companies had commonly pledged their shares as collateral with the banks, the prolonged and sharp declines in stock prices eroded the value of their collateral, leading to force selling. This caused increases in non-performing loans and significant losses to the banking industry. The crisis has underscored the critical need for a more balanced financing and investment choice in the capital market. The sharp drop in the stock market caused most investors to get their money out from the stock market and shift their investment into the bond market, which gives a fixed income and is less risky. Do bonds serve as a risk-hedging instrument for portfolio managers in Malaysia? Is the Malaysian stock market more risky than the bond market? What is the stock and bond market co-movement trend? Understanding the relationship between the bond and stock market would help portfolio managers to make a sound asset allocation decision while knowing the volatility linkages and the correlation between these markets also helps in risk management and derivative valuation.

To answer the above questions and achieve the above implication, there is a need to study the volatility of the stock and bond market and examine the relationship between the two markets in order to ensure that bonds can offer investors security in the volatile market in Malaysia. This paper analyses the changing volatility of the government bond, corporate bond and stock market in Malaysia over the period of January 1994 to October 2002 besides examining the relative volatility and the correlation between bond market and stock market volatility in Malaysia. This paper only covers a period of approximately 9 years due to the lack of data available for the bond market indices.

The government issues bonds to meet the investment needs of the EPF, fund the budget deficit and to finance massive funds needed for the country's development agenda. The privatization policy that emphasized on private sector as the main driver of growth caused corporations, in search for the capital needed to fund their infrastructure and development projects, to issue corporate bonds, which is also known as private debt security (PDS). The importance and rapid growth of the bond market as an alternative source of financing led the government to establish an indicative index for the Malaysian Government Security (MGS) and PDS bonds. The RAM – Quantshop MGS index was developed by RAM to measure the performance of MGS in January 1994. Almost 2 years later, on 29th December 1995, RAM established the RAM listed bond index to gauge the performance of the PDS.

In this paper, the KLSE Composite Index (KLSE CI) is used for the stock market while the RAM-Quantshop MGS Index and the RAM Listed Bond Index is used to represent the MGS and PDS respectively. Firstly, the monthly return of the stock and bond market is examined. Next, a moving standard deviation of monthly rates of returns for the 12-month-calendar period is used as the measure of volatility for the bond and stock market. Results show that the stock market has a higher degree of volatility level compared to the bond market. F-tests show that the volatility for bond market and stock market returns has changed over the period of study. Thirdly, the relative volatility of bonds compared to the volatility of stocks is examined through the ratio of the "12-month moving average" (12-MMA) "standard deviation" (SD) and the 12-MMA of systematic risk (beta) for MGS and PDS bond returns relative to the returns for the KLSE CI. The 12-MMA SDR tests show that the relative volatility for the MGS all series, short term and medium term bond is in the decreasing trend, indicating that the volatility of the these bond markets has been increasing slower than the stock market volatility. However, it turns out to be the opposite case for the long-term MGS and PDS bonds over the period of study. Apart from that, the 12-MMA SD for MGS all series and medium term bonds moved upwards starting from December 2000 to October 2002. The 12-MMA beta shows that the systematic risk for the

MGS bonds are having negative slope over the period of study while the PDS is sloping upwards. This implies that the relationship between the MGS bonds and the stocks is getting weaker overtime. On the other hand, the relationship between the PDS bonds and the stocks is getting stronger. Subsequently, the correlation of coefficient for the stock and bond market is examined to determine and confirm the historical beta for the bond market. Lastly, a plot of the historical trend of the ratio of the 12-MMA SD and the 12-MMA beta for the bond markets on the same graph shows that the historical beta and the historical SDR for the MGS and PDS bond markets moved in the same or different direction. There are time periods when the ratio of 12-MMA SD is high while the 12-MMA beta is negative. This indicates that during these periods, bonds are more volatile relative to stocks but in addition, bond market is moving counter to stock market. The stock-bond portfolio manager will enjoy the benefit of bond as a risk-hedging tool during this period. Overall, results show that MGS and PDS markets have different relative volatility overtime.

The remainder of this study is organized as follow. Chapter 2 provides additional background and discusses related literature. Chapter 3 presents the research methodology, which includes the data, returns and the volatility measures used for determining the volatility of the stock and bond market. Chapter 4 examines (a) the volatility of the stock and bond market and (b) the relative volatility and relationship between the two markets. Chapter 5 concludes and discusses the results and implication of the research.