

Fundamental of portfolio management

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The equity risk premium is the excess return required by investors to compensate risks of holding a stock rather than holding a "risk free" asset. (Jason, 2011) Under the Capital Asset Pricing model, risk free investments involve borrowing and lending among investors and borrowing positions offset by lending positions, therefore let $Y =$ and representative investor's risk aversion be γ . (Bodie, Kane and Marcus, 2011). We rearrange this equation, indicating the equity risk premium is influenced by average risk aversion and variance of the market portfolio.

It's obvious that when risk aversion of investors and variance of market portfolio increase the equity risk premium will go up, and vice-versa. There are many empirical evidences show that during the Global Financial Crisis the volatilities of market increase, for example Chewer (AAA) have recognized the increase of volatilities in stock markets during financial crisis. Besides, according to the research of Steven, Michael and Bob (2011) derived from trades in options on the S&P/ASX 200 index showed that the implied volatility climb up during the SGF and reach the peak in 2009.

The increase of stock market volatilities not only represent the increase of risks (Karol 2011 and Brooks 2001) but also have negative relationship with risk aversion. (Chewer 1989 and Carney 2000). There are some events can be summarized in mention of an increase in risk aversion, for example after the Lehman Brothers bankruptcy in September 2008 the stock market price hardly dropped and the bank lending dramatically decreased, consistent with this there was a overshooting of risk aversion. (Paolo, John and Chairs, 2011) In conclusion, during the SGF both average risk aversion and risks of market increased, therefore the equity risk premium went up. Part D The keenness

in the distribution of returns has become important in asset pricing because the traditional mean-variance measurement cannot fully characterize return behaviors (Samuelsson 1970, Campbell and Henc 1992; Circler and Huber 2007).

This report will discuss the importance of keenness in returns in asset pricing with the respects of investors' preference for positive keenness and aversion to negative keenness, which asset pricing factors may be a proxy for keenness, the distinction between keenness and co-keenness in returns, and some researches include behavioral finance researches will be provided. What is keenness and why it's important Keenness is a measure of the asymmetry of probability distribution around its mean.

Positive keenness has more probability distribution towards positive value, while negative keenness has more probability distribution towards negative value. The skewed distribution of asset returns was first pointed out by Dominant (1985), and it caused by the asymmetrical reactions of investors to good news and bad news from companies. Chem., Hong and Stein (2001) argued that there was another reason The main reason for the increasing importance of keenness in returns is that the unrealistic assumptions of traditional mean-variance framework.

The mean-variance measurement assumes the returns are normally distributed and quadratic preference, however it rarely happened in real world, therefore the insemination of expected returns and risks may exhibit.

According to the finding of Roll (1977) and Ross (1977) that the portfolio used as a market proxy is inefficient, the Sharper's CAPM have been suggested as

invalid. It's also supported by Bernard and Allotted(2000) that the (unadjusted) mean-variance measurement Sharpe ratio can lead misleading conclusions.

For overcoming this bias Parka's and Bear (1986) and Leland (1999) have developed performance measure incorporating keenness. Besides, Harvey and Suicide(2002) and Krause and Litterbug (1976) have recognized the importance of keenness that systematic keenness and conditional keenness are important to asset pricing since they characterize the true distribution of asset returns. Furthermore, in traditional mean-variance framework such as Capital Asset Pricing Model there is only a single efficiency risky asset portfolio.

While accounting for the mean-variance-keenness in returns, there are multiple efficient portfolios, which could be considered to provide diversification portfolios. (Harvey and Suicide, 2000) Investor's preference for positive keenness and aversion to negative keenness The positive skewed distribution has a longer tail on the higher-return side of the curve, while the negative skewed distribution has a longer tail in the lower-return side.

The asset with negative skewed returns distribution has greater risks that the returns will decrease than what the standard deviation measures, and for positive skewed distribution there are fewer risks the returns will decrease (Mini, 2011) Theoretically, investors have preference toward positive keenness and aversion toward negative keenness, since increasing positive keenness will decrease possibility of large negative rate of returns.

There are many literally evidences show the preference of positive keenness, for example in 1967 Aridity presented that rational investors with reasonable utility functions should prefer positive keenness in the distribution of investment returns". Following Aridity (1976), Chinchilla et al. (1997) and Parka's et al. (2003) have recognized investors' preference for positive keenness as well. What's more, investors show their preference toward positive keenness in gambling, lotteries and entrepreneurship (Thomas, Jose and LU-Santos, 2009).

Nevertheless, some investors exhibit preference for negative keenness in real life, here investor is not only represent individual but also economic agent. Prefer repertory investment is a an example of negative keenness preference, which with reasonable average yields but a small chance of heavy losses, to the opportunity of recouping the original cost(Maker, Nicholas, Dominic and Raymond addition, economic agents facing a stream of stochastic monetary payoffs will show preference for negative keenness (Nazism, 2004).

This also supported by Richard " economic agents may prefer negative keenness under some certain conditions" (Richard, 2010). From the research of Harvey and Suicide (2000) we can know that negative keenness receive higher return. In their research they assumed investors require payment for negative keenness, and excess returns could be result from the market inefficiency. The higher return of negative keenness may be a reason that in some circumstance investor will prefer negative keenness.

Although investors expect the returns of asset exhibit positive skewed distribution, commonly the returns are negatively skewed distribution, since investors react to good news and bad news from corporations asymmetrically. It's explained by Dominant (1985) who first pointed out the skewed distribution of asset returns, and he reposed that the increase of stock price caused by good news is to some extent offset by the increase in the risk premium, which is required by higher volatility.

For the decreased stock price caused by bad news is amplified further by the increased in the risk premium. Which asset pricing factors may act as a proxy for keenness The traditional mean-variance CAMP use beta to measure the systematic risks, and there are lots of studies suggest that the beta can't fully capture the systematic risks. Ban (1981) suggested market capitalization , and Fame and French (1992) proposed book-to-market ratio have relationship with the cross-section of stock returns (Choi, 2006).

There are many debates about whether asset pricing factors such as size and book-to market ratio may be acting as a proxy for keenness. The SMB factor measures the spread in asset returns between small and large size firms, and the HIM factor measures the spread asset returns between high book-to-market ratio and low book-to-market ratio assets. In the research of Harvey and Sarno (2000) they found that when adding keenness alone or jointly with HIM and SMB to portfolios had similar results, therefore they lamed that book market ratio (HIM) and size (SMB) factors can be act as a proxy for keenness.

Recently, Chunk Johnson and Shill (2007) also proposed that SMB and HIM are proxies for higher-order moments, and the Fama and French factors could be superior. However, there were some probabilities of errors in variables in their research. Conversely, Smith (2007) applied the conditional three-model factor, which was proposed by Harvey and Suicide (2000), he argued that there was little impact on the price of market beta after adding the size(SMB) and the book-to-market(HIM) factors when the conditional skewness has already included in the model.

The study of Jail(2004) showed that the conditional skewness plays an important role in stock market (HIM) factors. Even though there are many arguments about the extent those SMB and HIM assets pricing factors act as a proxy for skewness, as least from the studies of Chunk Johnson and Shill (2007) and Jail (2004) we can conclude that the SMB and HIM those non-market factors can't completely act as a proxy for skewness.

Distinction between skewness and co-skewness in returns Skewness is a measure of the asymmetry of probability distribution around its mean or a single asset, while co-skewness measures the symmetry of a variable's probability distribution in relation to another variable's probability distribution symmetry, which provide estimation of risks of assets connect to market risks. Theoretically, investors show their preference towards positive skewness that present the asset has higher possibility of extreme positive returns than market returns.

Thus, skewness also plays an important role in asset pricing, and there are many studies support it. The studies of Harvey and Suicides (2000), Smith

(2005) and Errand and Sys (2005) provided evidence that the conditional jocoseness can help explain the cross-section of stock returns. Baron-Ideas (1985) and Limit (1989) suggested the pricing of jocoseness. Moreover, jocoseness extends capital asset pricing theory to some extent.

The study by Krause and Litterbug provided the evidence that jocoseness can be regarded as a supplement to the covariance measurement of risks in explaining the returns on individual NYSE stocks and in the process to interpret the other discrepancies between returns, and the returns when take the NYSE stocks on the whole. Conclusion In conclusion, keenness in returns plays an important role in asset pricing, and there are many researches can provide evidence for it. For example, the studies conducted by Campbell and Hence (1992) and Harvey and Suicide (2000).