VALIDITY OF CAPM: SECURITY MARKET LINE (SML) CAN NEVER PREDICT REQUIRED RATE OF RETURN FOR EQUITY EVEN IF THE MARKETS ARE EFFICIENT – A SIMPLE INTUITIVE EXPLANATION

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ABSTRACT

Many of the financial literature on empirical testing of validity of CAPM rely on one of the major assumptions behind the model – the efficiency of markets and market portfolio. The generally accepted reason for continued usage of CAPM as valid asset pricing theory even though it fails in real world seems to be the conclusion that CAPM can not be practically tested empirically due to the problem of testing the efficiency of market portfolio and hence can neither be proved nor disproved (Richard Roll (1977)). In this paper, it is argued that even if the markets (or market portfolio) are efficient at all points of time, CAPM model will still be not able to predict asset prices.

The SML relationship is a mathematical truism that will hold good in any efficient portfolio subject to some specific conditions. When these conditions are not applicable, then the SML relationship will not hold good. It is found that when we extend the mathematical property of SML to market portfolio (as defined by CAPM) for equilibrium conditions, some of the conditions do not hold good. This paper shows intuitively with simple illustration that time varying property of covariance matrix is implied aspect of the efficiency of the markets and directly implies that SML relationship will not hold good even when the market portfolio is efficient.

KEYWORDS: CAPM, SML, Market Portfolio, Market Efficiency, Time Varying Covariances