

Portfolio consists of assets with varying expected returns, risks and covariances. Markowitz's theory compares all the possible portfolios according to the total expected return and risk. In the [risk, expected return] space all possible portfolios define a region bounded by a hyperbola called the Efficient Frontier which represents portfolios with the lowest risk for a given level of expected return, or equivalently portfolios with the highest expected return for given risk level. The Markowitz portfolio theory says that every rational investor would choose a portfolio at the frontier. When the risk-free asset with return R_f is introduced, the frontier changes to the Capital Market Line. The tangency point of the line and the former frontier is called the Tangency Portfolio and in equilibrium model (CAPM) it is the market portfolio. The CAPM illustrates the risk-expected return relation, using the beta coefficient, as $E(R_i) = R_f + \beta(E(R_M) - R_f)$, where $E(R_M)$ is the expected return of the market and $\beta = \frac{Cov(R_i, R_M)}{Var(R_M)}$. This bachelor thesis uses the portfolio theory to find solution to investing into assets considering the investor's consumer basket so that the investor can buy as many units of the basket as possible at the date of maturity of their portfolio. The elements of the basket are correlated with the assets. Considering that the aim is no more just maximizing return but also what the investor is able to buy for the money earned, the weights of the optimal portfolio change markedly. The thesis deals with how the weights of the optimal portfolio depend on structure of the basket, expected returns and correlations of the elements of the basket with the assets and how the weights change when one of the parameters changes.