
TREYNOR-MAZUY MEASURE

Description of the Measure:

The Treynor-Mazuy Measure is an absolute measure of performance. It is given by the annualized return of the fund, deducted the yield of an investment without risk, minus the sum of returns on the two arbitrage portfolios multiplied by the estimated fund's sensitivities to risk factors during the same period.

Interpretation:

The Treynor-Mazuy Measure gives the excess return obtained by the manager which is not explained by his/her current risk positions (supposing, this time, that he/she changes risk positions according to the market portfolio return expectations).

Use:

The magnitude of the Treynor-Mazuy Measure depends on two variables: the return of the fund and risk sensitivities variability. This indicator represents the part of the mean return of the fund that cannot be explained by common factorial risk exposure (supposing, this time, that the market risk sensitivity is modified through the sample). It is a function of how good were the anticipations of the manager concerning market factor evolutions.

Potential Misuse:

Accuracy and reliability of this measure is based on the quality of the market proxy and on the hypothesis that market timing capacity of the fund manager is stable.

Formula:

$$TM_{p,t} = \left[E_t(R_{p,t}) - R_f \right] - \left\{ \hat{\beta}_p \left[E_t(R_{m,t}) - R_f \right] + \hat{\delta}_p \left[E_t(R_{m,t}) - R_f \right]^2 \right\}$$

where:

$E_t(R_{p,t})$ is the annualized mean return on the fund considered over period;

$E_t(R_{m,t})$ is the annualized mean return on the market portfolio considered over period;

R_f is a proxy for the riskless rate;

$\hat{\beta}_p$ is a function of the slope of the portfolio return function;

$\hat{\delta}_p$ is a parameter that depends on the convexity of the portfolio return function;

Two year data of weekly series is considered.

References:

- ✧ Goetzmann W., J. Ingersoll and Z. Ivković, (2000), “Monthly Measurement of Daily Timers”, *Journal of Financial and Quantitative Analysis* 35 (3), September 2000, 257-290.
- ✧ Jurczenko E. and B. Maillet, (2001), “The Three-moment Capital Asset Pricing Model in an Unified Framework”, *Developments in Forecast Combination and Portfolio Choice*, Series Financial Economics and Quantitative Analysis, Dunis-Moody-Timmermann (Eds), John Wiley, 2001, Chap 13, 239-273.
- ✧ Treynor J. and K. Mazuy, (1966), “Can Mutual Funds Outguess the Market?”, *Haward Business Review* 44, July-August 1966, pp.131-136.