

基於基本面因子的指數股票型基金之理論與實證

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摘要

While the ETF has so many advantages, but investors still expect ETF can provide greater rewards as much as possible and lower the risk. The index tracked by active ETF has an active stock selection mechanism which may have better performance. Although many quantitative methods can provide active stock picking mechanism, but over-complex and opaque decision-making model is not suitable for the characteristics of transparency which ETFs should have.

This paper aims to develop an index tracked by active ETFs based on the fundamental factors. In order to make the stock selection models have the characteristics of transparency, this study employed two approaches to construct the multi-factor model: (1) Theoretical approach: Deriving growth-value two-factor model using mean reversion model (2) Empirical approach: Use stepwise regression to select the important factors from a large number of factors which may affect the stock returns; then, scoring stocks according to these factors; finally, form the constituent stocks of the index tracked by ETFs. To examine the feasibility and accuracy of the model, this study employed the Taiwan stock market to conduct empirical analysis.

Conclusions include: (1) The theoretical approach, growth-value two-factor model derived from mean reversion, showed that the most important factors affecting the return of stock are return on equity (ROE) and market to book value ratio (PBR). (2) The empirical approach, the model constructed by stepwise regression analysis using 12 candidate factors, showed that the most important factors affecting the return of stock are the ROE and PBR; they can explain absolute majority of the explainable variance of the return of stock. More importantly, the two factors are the same as those found by the theoretical approach. (3) According to empirical approach, the best combination of weights of ROE and PBR is about 53% and 47%,

respectively. Simulation results showed that the actual optimum weight combination is very close to the estimated one. (4) The empirical approach can build the most compact multi-factor model, that is, two-factor model. However, the model could explain most of the explainable variance. Therefore, in addition to meeting the characteristics of transparency which ETFs should have, this model can also increase their investment performance.

關鍵字：Stepwise regression, return on equity, market to book value ratio, Exchange Traded Fund, stock selection model.