Financial Analysts Journal ›
Volume 57, 2001 - Issue 2

PORTFOLIO MANAGEMENT

Tracking Error and Tactical Asset Allocation

Manuel Ammann & Heinz Zimmermann

Pages 32-43 | Published online: 02 Jan 2019

Cite this article https://doi.org/10.2469/faj.v57.n2.2431

Abstract

We report results from our investigation of the relationship between statistical measure missible weight r moments of returr wever, constrai ed on the portfolio ent strategie ole deviatio xample base set alloc that TAA restrictic t classes but also asset classes.

We repo cal tracking error an om benchm analysts,

investment strategists, and risk managers. The reason is that these practitioners often think in terms of tracking volatility or correlation whereas the actual allocation decisions by portfolio managers tend to be guided by recommendations and constraints on the weights of assets or asset classes in their portfolios.

Typically, tracking errors are calculated either as second moments of return differentials between the tracking portfolio and some benchmark or as correlation coefficients. In practice, however, constraints on tactical deviations from benchmark weights are usually imposed on a portfolio manager to ensure adequate tracking and limit the active part of portfolio risk. These bounds define the maximum percentages by which the actual portfolio weights may deviate from the corresponding weights in the benchmark. For example, for an equally weighted benchmark portfolio consisting of five asset classes with strategic weights of 20 percent for each class, an active management contract might allow the portfolio manager to deviate from the weights within a range of ±10 percent for each class. Such a range implies a certain tracking-error range, so the active manager has the chance to earn abnormal portfolio returns.

We took a simulation approach to quantifying the relationship between statistical tracking-error measures and constraints on weights: For given tactical asset allocation (TAA) ranges, we identified admissible tactical portfolio combinations and simulated for these portfolios return series based on historical data. We then calculated the correlati managed accordin s static; the allocatio tudied three dynamic d on return trends, a g within the weight c h the individua ror arose not c asset-class track

The asse nchmark portfolio hese stocks, U.S. bon and the full period is plied the analysis he robustness tests confirmed our main findings.

For given tactical ranges, we found that the lowest attainable correlation coefficients between the tactical portfolios and the benchmark are surprisingly high. Consequently, imposing a lower bound for admissible correlation between tracking portfolio and benchmark may not prevent portfolio managers from holding portfolios that differ greatly from their benchmarks in terms of asset-class weights. We also found that tracking errors and correlation coefficients are very sensitive to the tracking accuracy of the individual asset classes. Thus, restrictions imposed to control the deviation of TAA strategies from benchmarks should not only restrict the weighting of the individual asset classes (i.e., the determination of tactical ranges), as is often done in practice, but should also control the error arising from the tracking of the individual asset classes.

We also applied our tracking-error analysis to the valuation of performance fees. Allowing for a higher tracking error increases the value of a performance fee contract to a portfolio manager because of the greater flexibility for the implementation of active strategies and thus the higher potential rewards. For given tactical ranges, we identified the highest corresponding tracking error in our simulation results and then used a pricing model for exchange options to compute the value of the performance fee contract. We found that the value of the contract is roughly proportional to the width of the tactical allocation ranges.

Optimizing tracking error-constrained portfolios

Source: Informa UK Limited

Linking provided by Scholexplorer

Related research

People also read | Recommended articles | Cited by 43