
PRACTITIONER'S DIGEST

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WHAT CAN TALEB LEARN FROM MARKOWITZ?

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Jack L. Treynor

Markowitz distinguishes between value and price; John Guerard’s book on contemporary applications of Markowitz’s techniques terms the difference “market microstructure noise”. The reason Taleb and Markowitz disagree is that Markowitz is focusing on value and Taleb is focusing on microstructure noise. Taleb’s adjacent returns are correlated, for example, because they share a common noise term.

But if we use a simplified version of Markowitz’s logarithmic approximation, we can express actual annual returns as the sum of 52 weekly returns, with microstructure noise at the beginning of week 1 and the end of week 52 and returns for the remaining 50 weeks that are not only uncorrelated but have variances both stationary and finite, if Markowitz’s assumptions for his value wheel are correct. Ibbotson and Brinson’s 195 years of annual returns for the US stock market provide a test based on actual prices. Markowitz had to wait almost three decades for this confirmation.

Guerard, John B. Jr., *Handbook of Portfolio Construction*, Springer, 2010.

Roger G. Ibbotson and Gary P. Brinson, *Investment Markets*, McGraw Hill Book Co., 1987, p. 67.

MANAGING THE VOLATILITY OF ALPHA MODELS

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Tony Elavia and Migene Kim

Most quantitative stock ranking models are based upon a combination of Valuation and Price Momentum factors. Clearly, a failure of either factor could cause a model to suffer from negative performance. After posting good performance for over two decades, quantitative equity investment managers have recently produced weak returns.

We develop a measure of risk and show how changes in risk provide a common framework to explain factor returns and past underperformance. We find that quantitative stock ranking models based upon factor weights that vary with their conditional (on risk) forecasted returns are superior to traditional models with fixed weights based upon unconditional historical averages. Portfolio simulations using this framework led to a lower volatility of returns and reduction in extreme underperformance during episodes of underperformance due to a failure of the Price Momentum factor.

The suggested improvements to investment processes in our paper rely upon objective and well-defined relationships between factor returns and risk. Hence they can be implemented by investment professionals.

ANOTHER LOOK AT IDIOSYNCRATIC VOLATILITY AND EXPECTED RETURNS

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Wei Huang, Qianqiu Liu, S. Ghon Rhee and Liang Zhang

There are extensive studies in recent years on the relation between idiosyncratic volatility and expected stock returns. Some researchers have found that portfolios with high idiosyncratic volatility in the current month yield low value-weighted returns in the following month, while others have shown that the relation is sensitive to the choices of data frequency, weighting scheme, and breakpoints in the construction of idiosyncratic volatility-sorted portfolios. In this paper, we examine the relation between idiosyncratic volatility and expected returns at the portfolio level to reconcile the mixed findings in the previous studies. In particular, we examine the combination of return reversal effect and January effect on the relation.

We find that the relation between idiosyncratic volatility and subsequent stock returns is conditional on whether stocks are losers or winners in portfolio formation month and whether their subsequent returns are computed over January and non-January months. If, for example, the idiosyncratic volatility-sorted portfolios are constructed in December, there are significantly more loser stocks than winner stocks, due to return reversal of the loser stocks, a significantly positive relation is observed between idiosyncratic volatility and portfolio returns in January. For other months, the impact of past winner stocks dominates and hence there is a negative relation due to the return reversal of these winner stocks. Overall, return reversal of winner stocks in non-January months are attributable to the negative relation between idiosyncratic volatility and subsequent stock returns.

Previous studies have suggested a significant profit from trading strategy involving buying low idiosyncratic volatility stocks and shorting high idiosyncratic volatility stocks. Our study further implies that investors may enhance such trading strategy by taking the well-known short term return reversal and the January effect into consideration. In particular, the trading profit on the idiosyncratic volatility based strategy might be greater when the strategy is implemented in non January months as well as on stocks with stronger reversal effect.

**EFFICIENT INDEXATION: AN ALTERNATIVE
TO CAP-WEIGHTED INDICES****PAGE 52***Noël Amenc, Felix Goltz, Lionel Martellini and Patrice Retkowsky*

Cap-weighted equity indices have been widely criticised as providing investors with inefficient risk-reward properties. In the wake of criticism of market-cap-weighted indices, a significant amount of research has been devoted to the construction of improved equity indices that use alternative weighting schemes.

This paper contributes to this field by introducing an indexing method that explicitly focuses on achieving the highest reward-to-risk efficiency. If investors care about a portfolio's risk-adjusted performance, it seems reasonable to focus on designing the portfolio with the highest reward-to-risk ratio (Sharpe ratio), the so-called tangency portfolio. This is the relevant portfolio for investors as they can use it in combination with a riskless asset to get the highest return for the level of volatility they are willing to take. The aim of the efficient indexation approach is to provide investors with an investable proxy for the tangency portfolio that reflects the normal returns of an exposure to equity risk.

Successful implementation of such an approach depends not only on its conceptual grounds but also on the reliability of the inputs used in portfolio optimisation. The relevant inputs are the covariance matrix and the expected returns of all stocks in the index. To obtain covariance estimates, we use a multifactor model based on principal component analysis. For expected returns, we use the insight that there is a risk-return trade-off and generate estimates from a suitably designed risk measure in accordance with the evidence of the link between downside risk and expected returns. Out of practical concerns, we also introduce a procedure inspired by optimal control theory to control portfolio turnover.

The empirical tests of the efficient indexation method show that it allows generating efficient indices with out-of-sample Sharpe ratios that are considerably higher than those of their capitalisation-weighted counterparts. In addition, performance is consistent across different business cycles, volatility regimes, and time periods.

PAIRS-TRADING ON DIVERGENT ANALYST RECOMMENDATIONS**PAGE 75***Susana Yu*

Pairs-trading is a short-term, self-financing arbitrage strategy in which buy and sell positions are simultaneously placed on two stocks whose prices have moved temporarily apart after following a long parallel path. We develop a new pairs trading rule based on financial analysts' buy/hold/sell recommendations from IBES Details Recommendation Database and test it for the period 1994–2009. On the basis of the Fama-French (1993) and Carhart (1997) four-factor models, we find that our trading rule generally results in positive risk-adjusted returns. It is more effective on small- and mid-cap pairs

of stocks than on large-cap pairs, consistent with the hypothesis of information disparity in the stock market. It is more effective in the industries of mining, finance, and services than in others. In additional exploration of our strategy, we examine the correlation of analyst recommendations with past stock investment and corporate earnings performance in the past. We find significant positive correlation, lending new support to prior findings of the relation between of the relation between recommendations and recent performance.