
PRACTITIONER'S DIGEST

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THE ROAD NOT TAKEN

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Craig W. French

In 1952, Harry Markowitz suggested that his mean-variance analysis approach could be used for theoretical analyses or for the actual selection of portfolios. He then presented a quantitative technique for practitioners to use—the Critical Line Algorithm. However, the investment industry has not embraced the Critical Line Algorithm for the latter purpose—security selection. Between 1952 and today the industry migrated to non-parametric search algorithms for most commercial optimizers because of their greater computing cost efficiency; simultaneously asset allocation came to the fore as passive investment products became available. Markowitz’s mean-variance approach has been rightly lauded for its contribution to Modern Portfolio Theory and the growth of the index fund industry. I observe that the Markowitz Critical Line Algorithm can be a highly efficient, valuable tool when employed for actual security selection, as originally intended.

JOIM readers will find “The Road Not Taken” to be a thought-provoking reassessment of the value of an analytical tool provided by Harry Markowitz sixty years ago. The Critical Line Algorithm can be used profitably for security selection. The market is not efficient. Active managers who employ Markowitz’s CLA for security selection can gain an analytical edge. Markowitz has provided investors with a card-counting system for security selection, and yet it remains the road less traveled by.

A NEW LOOK AT DISCOUNT RETURNS: IMPLICATIONS FOR THE GLOBAL INVESTOR

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Anthony Tessitore and Nilufer Usmen

Diversification has been a guiding principle in portfolio construction since the publication of Markowitz 1952. An investor can reduce volatility without sacrificing average return by combining low correlation assets. Yet diversification among traditional assets like stocks, bonds and mutual funds is limited, as

these assets share common factors and can become highly correlated, especially during periods of market stress.

This paper explores a new source of independent returns that, when added to the mix of other assets, can further improve the portfolio risk-return relationship. The independent return stream is achieved by, in effect, investing in the discounts of closed end funds. Such funds offer an alternative income stream based on their unique characteristic: *discount movements*. In particular, when the share price rises proportionately more than the net asset value, an investor earns a positive discount return. Isolating the discount returns involves a hedge generated through a long position in closed end fund shares and an offsetting position in the securities held by these funds. An investor holding the hedge does not earn the price or net asset value return of the fund, but instead earns the relative return between the two.

This paper shows a significant improvement in the portfolio risk-return relationship when discount portfolios are included in the traditional asset mix. The improvement stems not only from positive average returns of deeper discounts, but also—and more significantly—from their low correlations with other asset returns. Hence, the paper illustrates the potential and significant benefits to a global asset allocation process of including discount returns of closed end funds.

CAN FUNDAMENTAL FACTORS ENHANCE THE PERFORMANCE OF TRADITIONAL MOMENTUM STRATEGIES?

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Susana Yu and Gwendolyn Webb

We test whether price-based momentum strategies can be improved by additional screening based on fundamental measures. Within the framework of portfolio formation based on recent winning or losing stocks, we further screen on the basis on fundamental measures of financial strength and gross profitability. Our key results are that the performance of long-short, price-based momentum strategies can be significantly improved when either fundamental measure is employed as a second screen. Of these two measures, the more effective appears to be gross profitability. These results support the hypothesis that fundamental financial information can be used by investors to improve portfolio performance.

MEAN-VARIANCE OPTIMIZATION WITH PUBLIC AND PRIVATE ASSET CLASSES

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Yu (Ben) Meng, Pu (Paul) Zhang and Ryan Ong

The Mean-Variance Optimization (MVO) framework is perhaps one of the most commonly used tools in making asset allocation decisions. However, combining both private and public assets into a portfolio is challenging because of the risks characteristically embedded in private assets such as illiquidity.

This article is our proposed approach to account for these embedded risks to better incorporate private asset classes to a portfolio. First, we highlight the presence of an illiquidity premium through the lens of autocorrelation as past returns of illiquid assets are good indicators of their future returns. Second, we analyzed and accounted for the difference in the transaction costs and time delays between liquid and illiquid assets. Third, we developed a de-smoothing model based on the autocorrelation of returns to appropriately compare the economic risks.

This framework that we propose is a general guideline to help investors obtain a more comprehensive perspective and to better manage the embedded risks of illiquid assets. By making these adjustments, private assets returns can be more appropriately compared with public assets under the traditional MVO framework.

AFTER-TAX PORTFOLIO VALUE: THE MISSING TAX OPTION

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Andrew Kalotay

After-tax performance measurement requires a rigorous definition of after-tax portfolio value. An understanding of after-tax value is also a prerequisite for effective management of taxable portfolios. We propose that the tax option, which is the right to execute tax-beneficial transactions—colloquially referred to as ‘tax-loss selling’—should be included in the value of the portfolio.

Currently there are several definitions of after-tax portfolio value in use, including ‘hold’ value and ‘intrinsic’ value. Hold value is the present value of the after-tax cash flows assuming a buy-and-hold strategy. The shortcoming of hold value is that it fails to consider tax-beneficial transactions. Intrinsic value partially corrects for this by recognizing current tax-beneficial transactions. However, intrinsic value does not consider potential future tax-beneficial transactions, i.e. the time value of the tax option. Our proposed definition of after-tax portfolio value is the sum of the hold value and the value of the tax option, including time value.

Incorporating the time value of an option is in line with contemporary finance theory. The tax option can be valued with existing industry standard methodology, incorporating investor-specific parameters such as tax rates and mortality rates.

Exercise of the tax option is a trade-off: cash flow savings in exchange for forfeited option value. Reinvestment of the proceeds automatically gives rise to a new tax option, whose value should be incorporated into the sale decision. Thus sale and reinvestment also entails swapping an in-the-money tax option for an at-the-money option. Reinvestment in a ‘like’ security ensures that the asset allocation and the risk characteristics of the portfolio remain the same.

While the concept of the tax option is applicable to any asset class, municipal bonds, which are normally held in taxable accounts, are especially suitable to illustrate the basic concepts. Due to tax-related factors the hold value of a municipal bond can substantially differ from its market price. This contributes to the complexity of the valuation of the tax option, and it can guide issuers in designing products to appeal to tax-aware investors. According to our analysis, intermediate 5% bonds callable in 10 years are ideal tax-beneficial structures. Remarkably, this coincides with the current market practice of issuing 5% non-call 10 bonds.

Unlike a conventional embedded bond option, such as a call or a put, the value of the tax option is not reflected in the market value of the portfolio. Nevertheless, this value should be recognized. Even if option-enhanced value is not practical for external reporting, it provides an added dimension for the portfolio manager by quantifying the value of potential tax-beneficial trading opportunities.