
PRACTITIONER'S DIGEST

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DOES EXTREME CORRELATION MATTER IN GLOBAL EQUITY ASSET ALLOCATION?

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Bruno Solnik and Thaisiri Watewai

Risk diversification has been a major motivation for global equity allocation. But the past decades have shown that equity markets go through prolonged periods of global crisis where returns are low while volatility and international correlation are high. With high correlation, the benefits of international diversification nearly disappear. The risk of a sudden break in correlation associated with higher volatility should be reflected in the optimal long-term asset allocation. In this paper, we provide a powerful risk management tool that is yet simple enough and intuitive, and offer asset-allocation rebalancing rules to adjust to changes in market conditions.

Our asset allocation relies on a novel asset price model that allows asset prices to jump in response to sudden global shocks, and allows shifts in market conditions to reflect an abrupt change from a good regime to a bad regime or crisis. As the probability of a crisis regime evolves, the model suggests changes in the leverage position and the allocation between the risky assets to reflect changes in volatility and correlations. Our out-of-sample test shows that our model can quickly detect starts of crises and yields higher return, lower volatility, and smaller maximum drawdown compared to the robust $1/N$ rule and other standard models. In its most simple application the model relies on a prior on the probability of being in a good/bad regime, which is simple and intuitive to be practically used by asset managers and integrated in the dynamic portfolio management process.

EXPLAINING BUYOUT INDUSTRY RETURNS: NEW EVIDENCE

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David Turkington

In the search for yield and for enhanced portfolio diversification, two concepts have received increasing attention lately: alternative asset classes, and factor-based investing. Recently, these two themes have intersected in a stream of research that suggests straightforward factor-based premiums in public

markets, such portfolios of small cap stocks and value stocks, can explain the historical return advantage of private equity buyout funds. While it is true that factor-tilted portfolios and buyout funds in aggregate have both enjoyed higher cumulative returns than large cap equity benchmarks over long periods, I find that these variables are not correlated to one another over time. After controlling for challenges and potential biases inherent with private markets data, I find that leverage, small cap and value premiums explain surprisingly little variation in aggregate buyout performance over time. However, two other variables—the (short) credit premium and a dynamic sector rotation premium—do emerge as useful variables for explaining performance. These results suggest that other aspects of buyout investments may be important determinants of performance. The list of potential factors may include opportunistic market timing, variations in supply and demand for capital, liquidity premiums, and more.

Although there is a large and growing literature addressing private equity performance as well as private equity factor betas, the conclusions vary dramatically. It can be difficult to reconcile divergent results for many reasons, including the opacity of cash flow data, the complexity of models required to accommodate this data, and the tendency to analyze variation across individual funds or buyout deals as opposed to variation across time for the asset class as a whole. One of the main contributions of this paper is to analyze private equity performance in terms that align with the way practitioners analyze traditional liquid asset classes in their portfolios. In addition, the conclusions derive from an expansive data set that directly represents the investment returns of private equity investors.

LESSONS LEARNED FROM STUDENT MANAGED PORTFOLIOS

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Stephan Kranner, Neal Stoughton and Josef Zechner

Over 500 million dollars of assets are currently managed by students at universities globally. Graduates from these programs are employed in important positions in the money management industry and future graduates will shape the direction of this industry in decades to come. In our study, we draw from experiences in one of these programs—the Portfolio Management Program (PMP) in Vienna Austria—in order to draw conclusions in two areas relevant to practice: (1) institutional client perspectives on the choice of asset managers in a competitive environment and (2) the social and organizational form of fund management companies. We utilize ten years of data from the inception of the program to evaluate behavioral finance tendencies: tournament incentives in fund management, the disposition effect of selling decisions, and managerial team size. In doing so we exploit specifics of the design of the program: competition between funds, a well-defined evaluation date, exogenous managerial turnover and team size.

We find evidence of tournament behavior amongst our competing fund managers. This means that trailing funds take higher risks as the termination date approaches, while the funds that are ahead lock in their leads when those leads are sufficiently large. The key implication for industry practice is that with such a form of tournament incentives, institutional clients must be aware that funds may stray too far from benchmarks when they are behind or converge to excessively passive strategies when they are ahead. Another implication is that in the presence of such risk shifting incentives, encouraging a longer term “career concerns” motive may be appropriate.

When it comes to disposition effects, previous studies have found that retail investors behave as though they are “loss averse” and are hesitant to sell losers. Instead, we find that managerial rotation and the requirement of regular reporting by managers induces a reverse disposition effect, wherein managers are more likely to sell losing positions. These effects are most prominent at times of managerial turnover when a new manager generation takes over, as they are not bound by the mistakes of the previous generation. The main implication for industry practice is that newly recruited managers may engage in forms of window dressing that can confound performance evaluation.

Finally, we exploit the data on random variation in managerial team sizes. Team sizes in our study vary between two and six managers, which is comparable to the variation in US mutual funds. We find that smaller teams take more idiosyncratic risks and exhibit higher risk adjusted performance (alpha) relative to their custom benchmarks. The implication for industry practice is that smaller teams may be more relevant for active management as larger teams might choose strategies that vary less from passive indexing.

PORTFOLIO OPTIMIZATION WITH NOISY COVARIANCE MATRICES

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Jose Menchero and Lei Ji

Mean-variance optimization provides a framework for constructing portfolios that have minimum risk for a given level of expected return. The required inputs are the expected asset returns, the asset covariance matrix, and a set of investment constraints. While portfolio optimization always leads to an increase in *ex ante* risk-adjusted performance, there is no guarantee that this performance improvement carries over *ex post*.

The culprit is that both the expected return forecasts and the asset covariance matrix contain estimation error. In this paper, we explore the impact of sampling error in the covariance matrix when using mean-variance optimization for portfolio construction. In particular, we show that sampling error leads to several adverse effects, such as: (a) under-forecasting of risk, (b) increased out-of-sample volatility, (c) increased leverage and turnover, and (d) inefficient allocation of the risk budget.

Moreover, we introduce a new framework to explain and understand the origin of these adverse effects. We decompose the optimal portfolio into an *alpha portfolio* which explains expected returns, and a *hedge portfolio* which has zero expected return but serves to reduce portfolio risk. We show that sampling error in the asset covariance matrix leads to systematic biases in the volatility and correlation forecasts of these portfolios. We also provide a geometric interpretation showing how these biases lead to the adverse effects described above.