Word from the editors and the CQA Board

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This special issue is probably the most tangible trace of the Chicago Quantitative Alliance conference that, unfortunately, never happened. The Spring Conference that was supposed to take place in Las Vegas in April, as it always has for the last 25 years, got caught out by the pandemic. We regret that the remarkable list of articles that were on the program didn't get presented, and we miss the debate the speakers would have inevitably stirred. We are pleased though that a selection of the articles can be shared nevertheless among those who had planned to attend the conference and, more widely, among all interested in asset management research, through this special issue of the Journal of Asset Management.

The Chicago Quantitative Alliance serves as an active professional organization focused on the needs of the quantitative investment practitioner. The primary goal of the group is to facilitate the interchange of ideas between leading quantitative professionals. The CQA is a non-profit association that sponsors annual conferences in Chicago, Las Vegas, Hong Kong, New York City and Boston. We feel that the articles that are compiled in this issue convey the spirit of the CQA very well. We are pleased to leave a record of the research on timely topics that are challenging the investment community today. We are most thankful to the contributing authors for their kind cooperation and for sharing their outstanding work.

Let us, in the Editorial, elaborate on one theme that runs like a red thread through the issue. The articles all contribute to improving upon the Markowitz' (1952) Modern Portfolio Theory (MPT) that has greatly shaped theory and

thought on investment management since the 1950s. The authors question the validity of its main pillar, the principle of mean–variance optimality. Is the investor's utility function truly maximized when the return expectation of an investment portfolio is mean–variance optimal, as the theory suggests? The question is fundamental. The articles are part a growing strand of literature that looks beyond the standing conventions of finance theory and proposes alternative insightful viewpoints. Among the leaders of this new line of thought figures, interestingly, Nobel Laureate Harry Markowitz himself!

The authors pick up on three concerns about the Modern Portfolio Theory that are regularly brought up in the finance literature, which we discuss one by one. A first group of authors, Jarrod Wilcox in his article named “Better Portfolios with Higher Moments”, and Dan DiBartolomeo and Christopher Kantos in “How the Pandemic Taught Us to Turn Smart Beta into Real Alpha,” revisit the definition of utility, which is in the MPT approximated by the first two moments of the probability distribution function of expected returns, that is the mean and the variance. Jarrod demonstrates empirically, that optimizing portfolios with respect to the logarithm of returns instead (Rubinstein 1976), which includes higher moments, leads to superior performance results.

Dan and Christopher recall the hefty turbulence on the capital markets during the 2020 covid lockdown as a reminder that the higher moments can at times be tremendous. The higher moments, in particular the skew and the kurtosis of the distribution function, are to them the missing link between the standing finance theories and market practice. They show in empirical tests that the relatively high equity premium that is observed over long periods can indeed be reconciled with the lower premium that rolls out of the Modern Portfolio Theory and the Capital Asset Pricing Model. Both Jarrod, and Dan and Christopher provide evidence that mean–variance optimization is suboptimal, and attribute this to the erroneous or incomplete definition for investment utility.

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A second group of authors take a different tack. Guan hao Feng and Nicholas Polson in their article named “Regularizing Bayesian Predictive Regressions” as well as Zhuanxin Ding, Douglas Martin and Chaojun Yang in “Portfolio Turnover when IC is Time Varying” focus on the uncertainty that surrounds the investment problem, an aspect that is not considered in the MPT. In the theory, the assumption is implicitly made that the return on the investment will be perfectly coherent with the probability distribution function that is defined, which is in the mean–variance context a Gaussian distribution. In the real world, there may not be such coherence. Why would returns strictly obey to predefined laws?

In a world where a certain degree of non-foreseeability (nonzero entropy) is admitted, mean–variance optimization is suboptimal. It is inferior to optimizations which seek to diversify the portfolio farther than the level that is attained via a mean–variance-only optimization. The additional diversification can be achieved in many ways. Among others routes, it can be obtained by modifying the model parameters, in particular by shrinking the covariance matrix between the asset returns. This is what the authors of both articles do in essence. Guan hao and Nicholas derive the return covariance matrix through Bayesian estimation while employing a Lasso-tilted inverse Wishart prior that enforces sparsity into the matrix. They demonstrate analytically as well empirically the positive effect that has on the portfolio optimization problem.

Zhuanxin, Douglas and Chaojun introduce a sense of non-foreseeability into the portfolio optimization problem by allowing the so-called Information Coefficient (IC) of an investment strategy to be time-varying. The IC measures the effectiveness of the strategy, and its variance is an indication of strategy risk. They show how the IC variance conditions the estimated return covariance matrix and consequently alters the mean–variance optimization outcomes. Over a given investment period, less active positions would be held while pursuing the strategy, which incidentally generates less turnover in the portfolio, compared to the case where the IC variance is zero. The authors observe that the lesser turnover they derive coincides with investment practice.

A third group of authors bring up market situations that seem to bluntly defy the axioms on which the Modern

Portfolio Theory is built. Both Bernd Scherer in the invited editorial named “Diversification - Does it really fail, when you need it most?” and Leigh Sneddon in “Strategy Design and the Narrowness of Breadth” argue that a spike in the correlation level between the asset returns doesn’t necessarily lead to a diminished investor utility. It depends, according to Bernd, on what happens simultaneously with volatility. The volatility level or dispersion can at times offset the impact of the correlation spike. Leigh revisits a few examples given by Buckle (2004) in this journal where high correlation increases rather than decreases active investment opportunity. He stress-tests these examples by Monte Carlo simulations.

A fourth and final group of authors looks at two intriguing market events that have taken place. Harris Ntantanis and Lawrence Pohlman in their article named “Market Implied GDP” study a warrant that was issued in 2012 by the Greek government based on the country’s Gross Domestic Product (GDP). Harris and Lawrence take the (tumultuous) pricing of this instrument as an input for estimating and testing a model they propose for forecasting GDP growth. Brad Cornell in “The Tesla Stock Split Experiment” comments on the ordinary stock split of carmaker Tesla on August 11th 2020, which on the day created a spectacular \$50 billion of wealth without obvious reasons.

References

- Buckle, D. 2004. How to Calculate Breadth: An Evolution of the Fundamental Law of Active Portfolio Management. *Journal of Asset Management* 4 (6): 393–405.
- Markowitz, H. 1952. Portfolio Selection. *Journal of Finance* 7: 77–91.
- Rubinstein, M. 1976. The Strong Case for the Generalized Logarithmic Utility Model as the Premier Model of Financial Markets. *Journal of Finance* 31: 551–571.

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