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PRACTITIONER'S DIGEST

The "Practitioner's Digest" emphasizes the practical significance of manuscripts featured in the "Insights" and "Articles" sections of the journal. Readers who are interested in extracting the practical value of an article, or who are simply looking for a summary, may look to this section.

BY THE NUMBERS: 10 THINGS MY HOBBIES HAVE TAUGHT ME ABOUT INVESTING   PAGE 5

Vineer Bhansali

I discuss ten common themes between non-investment related activities that shed practical and potentially useful light on investing. While readers might not be familiar with these particular activities, I believe that combining analogies from any accumulated skill in intrinsically rewarding activities (also known as hobbies), with a disciplined analytical approach yields significant benefits.

The five activities discussed are ultra-running, flying, theoretical physics, screen writing and programming. The lessons are mostly commonsensical: from focusing on structure and the environment, to paying attention to data and momentum, to avoiding the basic types of errors, and the use of tools such as simulation and thought experiments. I finish with a bonus tip. I hope that the reader finds these examples useful as complements to rigorous mathematical models.

TAX-COGNIZANT PORTFOLIO ANALYSIS: A METHODOLOGY FOR MAXIMIZING AFTER-TAX WEALTH   PAGE 26

Kenneth A. Blay and Harry M. Markowitz

Over 60 years have passed since portfolio theory was first introduced. However, the issue of how to incorporate the impact of taxes in a portfolio analysis has yet to be effectively addressed. Today, the most prevalent methods of considering taxes in portfolio construction are the preliminary adjustment of asset allocation inputs for taxes and the post-optimization application of asset location heuristics. We argue that these methods are unsatisfactory in that they fail to address taxation dynamics that result from investment and consumption dependent illiquidities.

In this paper we introduce Tax-Cognizant Portfolio Analysis (TCPA) as a methodology that extends portfolio theory to address the taxation dynamics that result from investment and consumption dependent

illiquidities while seeking to maximize expected after-tax wealth for given levels of risk. Rather than maximizing end-of-period wealth, TCPA focuses on maximizing the after-tax wealth an investor can ultimately consume over a lifetime based on specific investing and consumption decisions. This is accomplished through the simulation of after-tax cash flows provided by asset class investments held within taxable, tax-deferred, and tax-exempt accounts.The averages, standard deviations and correlations of the present values of cash flows from a series of simulations are then used as inputs for a mean-variance optimization. The benefits of applying TCPA relative to traditional mean variance approaches using inputs that have not been adjusted for taxes are notable with the greatest improvements in after-tax wealth outcomes generally occurring in the lower-risk segments of TCPA efficient frontiers.

Our results are of practical significance to investors who seek to maximize after-tax wealth. We contribute to asset allocation literature in three key areas. First,we detail the TCPA methodology that creates tax-cognizant efficient frontiers by simultaneously identifying the approximately optimal allocations to asset class investments and the location of those investments across account types with different taxation characteristics. Second, the log normal distribution of present value outcomes necessitates that tax-cognizant portfolios be presented using different, more intuitive, risk and return metrics for portfolio selection. We propose the use of cash flow-confidence level efficient frontiers that allow investors to select portfolios that maximize expected real after-tax periodic cash flows for a given probability of achieving those cash flows.Finally, because the impact of taxation is dependent on the length of the investment horizon we suggest the use of dynamic portfolio glide paths that balance tax efficiency with the risk of not achieving desired after-tax wealth outcomes.

THE SELF-FULFILLING PROPHECY OF POPULAR ASSET PRICING MODELS   PAGE 65

Bradford Cornell and Jason Hsu

A fundamental question in asset pricing is what determines the cross-section of expected returns. Modern finance offers a theoretically elegant answer which takes it for granted that prices are set by end investors maximizing their expected lifetime utility from consumption. The analysis implies that expected returns are a function of the covariance between security returns and per capita consumption growth.

Despite its appealing simplicity, the theory crucially depends on the counterfactual assumption that end investors make their own investment decisions. The traditional modeling framework has also failed in practice; it does not account for actual asset prices. In reality, due to cognitive limitations as well as constraints on the amount of time and information they have available, end investors delegate investment decision-making to an asset management ecosystem in which they play almost no role in setting prices.Instead, active, fundamentals-oriented portfolio managers set prices. This view of the institutional context gives rise to a provocative self-fulfilling prophecy. The cross-section of expected returns under such circumstances is determined by the discount rate models employed by these fundamental investors. Consequently, *the models not only describe expected returns*, *they also determine them.*

This hypothesis has numerous implications for both the theory of asset pricing and the practice of value-oriented investment management. For example, suppose that the historical value premium, which economists have attributed to an objective but hidden risk proxied by the HML factor, were actually the result of cognitive biases and behavioral mistakes. Even if the psychological origin were widely accepted, investment decision makers' continuing to include the HML beta in discount rate calculations would lead to the persistence of the value premium, rather than to its weakening or disappearance. That an asset pricing model can generate a self-fulfilling prophecy makes finance theory much less academic.

THE INFORMATION CONTENT OF ANALYSTS' RECOMMENDATIONS REVISITED   PAGE 75

Daniel Bradley, Jonathan Clarke, Suzanne Lee and Chayawat Ornthanalai

We expand on the findings in Bradley *et al.* (2014), who show that daytime analyst recommendation time stamps in I/B/E/S are systematically delayed giving the false appearance that these recommendations are stale and uninformative. We show that time stamp delays in I/B/E/S are more likely if the recommendation is issued by independent analysts, non-star analysts, unaffiliated analysts, and analysts from less reputable banks.

Using jump detection techniques and a regression framework, we then examine analysts' characteristics that are associated with influential recommendations. We find that all-star analysts, analysts from high-reputation banks, and analysts that have issued influential recommendations in the past are more likely to make influential recommendations.

Finally, we examine the return drift following influential recommendations. In the 15-minute announcement window, influential upgrades (downgrades) generate an immediate reaction of 3.32% (−3.64%). For recommendation upgrades, the stock price drift is only 18 basis points over the next 2.5 hours, while for influential recommendation downgrades, the drift is larger and averages −44 basis points over the next 2.5 hours.

OPTIMAL MUNICIPAL BOND PORTFOLIOS FOR DYNAMIC TAX MANAGEMENT   PAGE 87

Andrew Kalotay

Tax-efficient investing is an important consideration in wealth management. Municipal bonds are generally thought of as tax-efficient because the interest is tax-free. It is also recognized that tax-loss selling, combined with reinvesting in a like security, can improve performance over a buy-and-hold strategy. However, as currently practiced, tax-loss selling of municipal bonds is typically an ad hoc year-end exercise, rather than a component of a dynamic tax management strategy.

We show that bonds purchased at a premium are far better candidates for tax management than those selling near par. The reason is that the price of a discount muniis adversely affected by the tax on the

gain payable at maturity by a new buyer; however, an investor who previously purchased the bond above par is not subject to such tax. Therefore the 'hold value' of the bond may exceed the market price by a wide margin, making the bond unsuitable for a tax-beneficial sale.

We quantify the excess return under dynamic tax management over a buy-and-hold strategy. Because the source of the excess return is price-volatility, long-duration portfolios naturally provide greater excess return. Performance also depends on investor-specific considerations, in particular the availability of short-term capital gains. We show that in the case of a 10-year duration portfolio, dynamic tax management is expected to outperform buy-and-hold strategy by 50 to 80 basis points annually.