HEDGE FUNDS

Betting Against Beta

January 1, 2014

A basic premise of the capital asset pricing model (CAPM) is that all agents invest in the portfolio with the highest Sharpe ratio, or expected excess return per unit of risk, and leverage or de-leverage this portfolio to suit their risk preferences.

However, many investors — such as individuals, pension funds and mutual funds — are constrained in the leverage that they can take, and therefore overweight risky securities instead. This behavior of tilting toward beta suggests high-beta assets require lower risk-adjusted returns than low-beta assets. Indeed, the security market line for U.S. stocks is too flat relative to the CAPM and is better explained by the CAPM with limited borrowing.

This raises several questions: What is the magnitude of this anomaly relative to the size, value and momentum effects? Is betting against beta rewarded in other countries and asset classes? How does the return premium vary over time and in the cross section? How does one bet against beta?

We address these questions by considering a dynamic model of leverage constraints and by presenting consistent empirical evidence from stock, bond, credit and futures markets in 20 countries. (We found relative flatness in 18 of 19 international equity markets, in many asset classes.)

We show how this deviation from the standard CAPM can be captured using betting-against-beta factors. The return of the BAB factor rivals those of all the standard asset-pricing factors — value, momentum and size — in terms of economic magnitude, statistical significance, and robustness across time periods, sub-samples of stocks and global asset classes.

actual future market behavior or future performance of any particular investment which may differ materially, and should not be relied upon as such. Diversification does not eliminate the risk of experiencing investment losses.

The information in this paper may contain projections or other forward-looking statements regarding future events, targets, forecasts or expectations regarding the strategies described herein, and is only current as of the date indicated. There is no assurance that such events or targets will be achieved, and may be significantly different from that shown here. The information in this document, including statements concerning financial market trends, is based on current market conditions, which will fluctuate and may be superseded by subsequent market events or for other reasons.