Resurrecting the Real-Time Equity Premium Prediction: The Role of Macroeconomic Diffusion Indexes

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Abstract:

This article examines whether macroeconomic diffusion indexes can predict the U.S. stock market excess returns, and whether investors can exploit this real-time predictability to earn excess profits over a buy-and-hold strategy in the market index.

In the spirit of Stock and Watson (2002), I estimate macro indexes using principal components on a panel of 100 macroeconomic variables from 1960:01 through 2006:11. After estimating in-sample predictive regressions on all macro indexes, I choose a "best" model using the predictive least squares (PLS) principle in a subsequent training period. I then implement an investment strategy in a second-stage out-of-sample trading period. All estimations and predictions occur recursively on a monthly basis, together with the construction of macro indexes.

I find superior and robust performance of macro diffusion indexes in the real-time prediction over all predictors used in the finance literature. In addition, such predictability can be exploited by investors even after high transaction costs.

Finally, this article raises a caution flag to the application of dynamic factor models. Many applications summarize the panel information by the first few principal components over the full sample, treat the loadings of each component constant and do predictions only within those first few factors. In the real time, the loadings on each macro index is time-varying, so should be its economic interpretation; the macroeconomic risk that affect the stock return is also time-varying, so should be the choice of index. The first few factors may well capture the panel information, but not necessarily have a connection with the predicted variable.