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In This Issue

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Portfolio Selection and Weighting - Your Reaction

Many CSI Customers have voiced their wish that we continue our discussions on portfolio weighting and selection. On this basis, we have decided to move forward with more on the subject. But first, we'd like to share some feedback from our readers.

A few News Journal readers disagreed with my premise that Modern Portfolio Theory could be used for futures assets because futures market returns are based on market timing; a couple correctly criticized the way my illustrator presented the efficient frontier; still others said that the CFTC would censor me for stating that the return on investment for a portfolio could exceed that of the maximum individual producing asset, and several wanted more information but requested I concentrate on the conceptual and theoretical and avoid presenting confusing equations.

Two people wrote that I overstated my case when I said that portfolio selection, weighting and evaluation must precede market timing. Their view was that market timing was all anyone would require to prevail in the markets, but that portfolio selection and weighting would help. This seems to be a very typical view taken by traders in the futures industry.

I was impressed by the many correspondents who believe, as I do, that portfolio integration is important for success. This demonstrated an insight that speaks highly for CSI customers as a group. I believe it is a great step in the right direction that so many CSI users have concluded the scope of investment analysis is much wider than trade timing.

Statistical portfolio diversification and weighting is analogous to a professional team of specialists, each with a unique role to achieve a common purpose. A portfolio literally provides safety in numbers. Just as you might avoid traveling alone on a dark street at night, you should avoid trading a single market or a single market group. It is very unwise to mix markets simply because they appear to hold subjective dissimilarities. A prudent trader should only trade a statistically balanced basket of markets, carefully selected to maximize return and minimize risk. Single-market traders who disagree by persisting to trade without statistical verification are certain to eventually receive a sound financial market mugging. At the very least, such traders are not maximizing their return on invested capital.

"Just as you might avoid traveling alone on a dark street at night, you should avoid trading a single market or a single market group."

I have found that Modern Portfolio Theory offers an effective method for weighing risk against return on investment through the identity of the efficient frontier. The return/risk space includes all combinations of portfolio possibilities and all levels of

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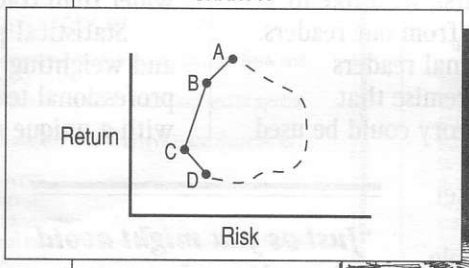
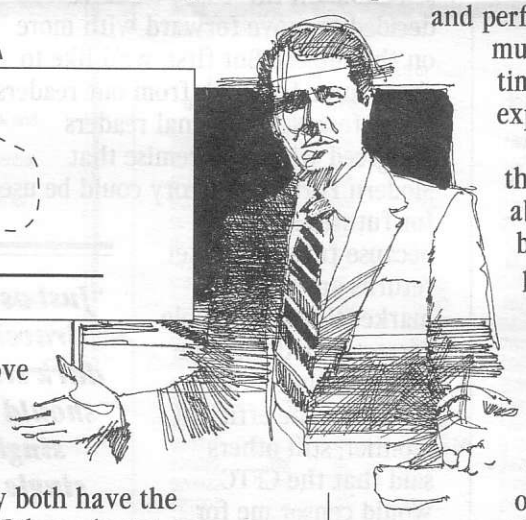
weighting of these possibilities. The efficient frontier is actually a very small subset of the population of possibilities. It is important to understand how the efficient frontier is defined before we can consider the mathematics of how to compute the efficient candidate portfolios inclusive of their precise weighting.

Suppose we can identify the census of possibilities in return/risk space according to the following diagram:

CHART A





In the above example, I would prefer portfolio B to D because they both have the same risk, but B has a better return. Portfolio C is the minimum variance portfolio and A is the maximum return portfolio. I would not subscribe to portfolio D because it has greater risk and a lesser return than portfolio C. In fact, only the portfolios represented by A, B and C define the efficient frontier.

A graphics arts error in the September, 1992 News Journal showed a couple of cases that were not efficient. I hope this example clears up any confusion on this point.

I think every timing system software developer harbors some degree of doubt about his system continuing to perform as it has in the past. These doubts may or may not be well founded. Unfortunately for traders who rely solely on timing systems, what may appear to work for the past often becomes a problem for the future.

This point was driven home by a customer who wrote about the typical money manager's habit of taking his trade timing system for granted. My correspondent said that he believed no amount of testing could ever absolutely answer the question of future trading reliability. Doubts and uncertainty for the future will always cast a shadow over expected performance. This is why problems involving portfolio selection, portfolio weighting and performance evaluation must be solved long before timing tools should be exploited.

As for the CFTC, and their potential doubts about how one might boost the return of a portfolio beyond the performance of the best producing asset, I say let them voice their curiosity.

To beg the question, consider a portfolio of two assets where each asset has a positive return. If one asset has a sinusoidal form (sin of x), and the shape of the other is represented by the cosine of x, where x is the time axis, then you would have perfect negative correlation. In this rather extreme case, after applying the appropriate weighting to adjust for amplitude differences it can be shown that the return of the portfolio will exceed the return of either investment. We can do this by making risk a part of the return equation.

For the benefit of the CFTC (if they really dare to doubt me) and any others who may have reservations, allow me to explain: . . . ✦

(continued next month)

Bob Pelletier