The Dresen Diversified Portfolio Model

A Personal Portfolio Asset Allocation Tool

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Introduction

The development of the Dresen Diversified Portfolio Model tool was the result of a series of frustrating encounters with personal financial investment advisors. The culminating event being an interaction with a commissioned broker who tried to sell his services using a poorly designed spreadsheet.

His claim was that the spreadsheet would calculate the optimal asset allocation distribution for a given target return two different ways. One way would demonstrate an asset allocation with portfolio minimization being the goal. The other being as asset allocation where downside risk was minimized. When asked to provide a copy of the spreadsheet he refused saying it was proprietary information and he didn't want to distribute the tool in the event the portfolio return based upon his model was lower than predicted. He also implied there were potential liability issues to his company if he were to release the spreadsheet.

To add insult to injury, he subsequently stated that he would be more than happy to help us better understand the tool and use it for our own asset allocation strategy development were we to hire him as our investment advisor.

So, in short, while he wouldn’t tell us how it worked or provide a copy of it to us to evaluate on our own, he was happy to use it to manage our asset allocation strategy.

Hence the development of the Dresen Diversified Portfolio Model. A tool which calculates the optimal asset allocation for a portfolio comprised of eight major asset classes. With this tool and the knowledge of the major asset classes used within the model, investors can select individual investments that closely match the asset classes used in the model in the proportions calculated by the model to develop a fully diversified portfolio that maximizes return and minimizes risk.

We don’t suggest that this tool is infallible or the end-all be-all of asset allocation tools for investors. However, what we do suggest is that this tool provides a very strong case for a diversified portfolio based upon index based

asset classes. Used as a guide, this tool can assist investors in deciding how to allocate their assets.

The Model

The source of data for the model is the Callan Periodic Table of Returns (http://www.callan.com/resource/periodic_table/pertbl.pdf). The table depicts annual returns for eight asset classes, ranked from best to worst. Well-known, industry-standard market indexes are used as proxies for each asset class.

The model follows the Markowitz Model in using statistical analyses of historical means, standard deviations, and correlations of market returns from January 01, 1980 to the present for eight major asset classes to determine the optimal portfolio allocation.

The Markowitz Model shows us that all the information needed to choose the best portfolio for any given level of risk is contained in three simple statistics: mean, standard deviation and correlation. Virtually every major portfolio manager today consults an optimization program. They may not follow its recommendations exactly, but they use it to evaluate basic risk and return trade-offs.

Why doesn't everyone use the Markowitz model to solve their investment problems? Historical mean return may be a poor estimate of the future mean return. As you increase the number of securities, you increase the number of correlations you must estimate -- and you must estimate them correctly to obtain the right answer. Given the more than 1,500 stocks on the NYSE, one is certain to find correlations that are widely inaccurate. As such the Markowitz Model is best applied to allocation decisions across asset classes, for which the number of correlations is low, and the summary statistics are well estimated.

Conclusion

There is always risk when investing money. The goal of asset allocation strategy is to determine the optimal asset allocation which minimizes risk while maximizing return. Based upon the theory of the Markowitz Model, the Dresen Diversified Portfolio Model does just that.