



THE EFFICIENT FRONTIER

INVESTMENT ADVICE - TIME FOR THE INTELLECTUALS? Markowitz, Nobel Prize Winner vs. Industry Practice

If you haven't made money in the last 5 years and if you haven't heard of Harry Markowitz, read on! It could be time to review your benchmarks, your assets and even your advisor. This is especially true for the management of lump sums.

During the 1990's, a storming bull market made every advisor a winner. Whether you were a seasoned stockbroker, or a hair-dresser turned financial salesman, unreasonable 20% annual returns became achievable. The need for expertise was excellently masked.

Traditional portfolio planning centered on mixing bonds and equities, with diversification being added only to ensure that there was a lot of eggs in the portfolio basket. The amount of intellectual empirical study on the portfolio – minimal.

Recently, the "traditional" portfolio method has been described as "putting your head in the oven and your feet in the freezer". Lots of extremes in terms of volatility and results.

Simpletons of Investment

So where's the alternative? Well, back in the 1950's, a bloke called **Harry Markowitz** studied a mix of maths and investments. It culminated **in 1990** with the sharing of a **Nobel Prize in Economics**. This work now forms the backbone of **Modern Portfolio thinking (Theory)** and **Efficient Frontiers** in investment. If it took the intellectual world thirty-something years to spot Harry, you can hardly blame the Financial Services world (and the "simpletons" therein) for not noticing.

Being one of the "simpletons", I should present a defence. The mature equity markets traditionally provided empirical graphs of "upwardness". "Reasonable" data analysis of the Dow, the FTSE and all the majors except the Japanese ones, gave you a return of between 10 and 20% per annum. All this without having to understand advanced maths. In 2002, the Sandler Pickering Report backed the "simpletons" to some degree.

Unfortunately, for the "simpletons" the investment world is a performance world. If you don't score, you get dropped. The more "aware" fund managers and advisors are turning to Harry. So what's it about?

Markowitz dumbed down

Harry specialised in mathematical and computer techniques to solve practical problems. Eventually he became a father figure for financial mathematicians, and this is the subject us simpletons didn't need. Until now.

So, in distilling a maths genius into "simple" investment outcomes, I run the risk of being superficial. But results matter, and it might be that Harry's work will become the antidote to the investment ills of this generation.

Efficient Frontier investment theory starts with the investor needing two things: a **good performance** and **low volatility**. Economists had long understood the need to diversify and get a number of eggs into the basket. But Markowitz showed how to measure the risk of assets, and how

to mix them into a portfolio, to get **the maximum return for a given risk**.

The Concise Encyclopaedia of Economics explains “shares in Exxon and General Motors have a high risk and high return, but one share goes up when the other falls. This could happen because when OPEC raises the price of oil and, therefore, of gasoline, the prices of gasoline producers’ shares rise and the prices of auto producers’ shares fall. Then a portfolio that includes both Exxon and GM shares could earn a high return and have a lower risk than either share alone”.

Diversification re-visited

In technical speak, Harry’s insight suggests that a portfolio’s expected return is a simple weighted combination of the assets in the portfolio, but the standard deviation (risk/volatility) is not. Based on US stock market history, even a “simpletons” diversification could eliminate 60% of the risk associated with owning individual stock. However, Harry’s work centred on providing an “efficient” set of mixed assets. Normally this mix would be quite uncorrelated, and the efficient mix became known as “**The Markowitz Efficient Frontier**”.

The mix shouldn’t be diversification for the sake of getting the egg count right! It’s tempting to buy a lot of funds just to get diversity, but this might not be “efficient”. A choice of 30 assets highly correlated doesn’t necessarily give you a better return/volatility result than 5 assets which are uncorrelated.

Thus, we shouldn’t assume a mix of funds would provide efficient diversification. Firstly, management style issues mean that the underlying assets within any one fund could mean the spread of assets are highly correlated. Secondly, fund managers belonging to the same fund house tend to use the same style, the same information, and the same economist! Getting the appropriate diversification from one house is difficult.

The “practice management” of Markowitz and “efficient frontiers” leads to requiring more human skill from Investment Advisors. Active management in choosing the asset mix, rather than passive management of simply following an index. A move towards “absolute” benchmarks rather than “relative” benchmarks. Recently, a Money Talks interview with Howard Smith of Morgan Stanley Quilter suggested that efficient frontiers are becoming increasingly more mainstream.

So the “modern” is beginning to challenge the “traditional”. Ironically, one of the more disconcerting aspects of “efficient frontier” marketing style is that **a well-diversified portfolio needs to invest in something not doing well!** An efficient frontier seems to need a mix of bad/low performance – and good. But that’s the whole idea. An “**efficient frontier**” would require **financial discipline**, and the pay-off is that over the long term, it will provide enhanced returns without massive swings in value.

Modern Portfolio and Efficient Frontiers (At a Glance)

- 1990 Harry Markowitz won a Nobel Economics Prize. The work has resulted in a change to traditional portfolio thinking. Delayed by bull markets, but now having an impact on major fund managers.
- Modern Portfolio thinking acknowledges the trade-off between risk (standard deviation) and return. For simplicity, “standard deviation” might be the deviation from say, zero, or inflation.
- Markowitz prompted greater intensity into diversification. He was a “financial alchemist” who mixed different asset classes with different risks to get lower volatility (risk), but good returns.
- Significance to you & I : Old-school theory of equity or bond-only funds not a good idea in isolation. Too volatile. Lots of different equity funds does not amount to diversification; you can “over diversify”. Diversification between different asset classes can provide an “efficient frontier”; a portfolio that has a risk level superior to the individual parts, without compromising return.