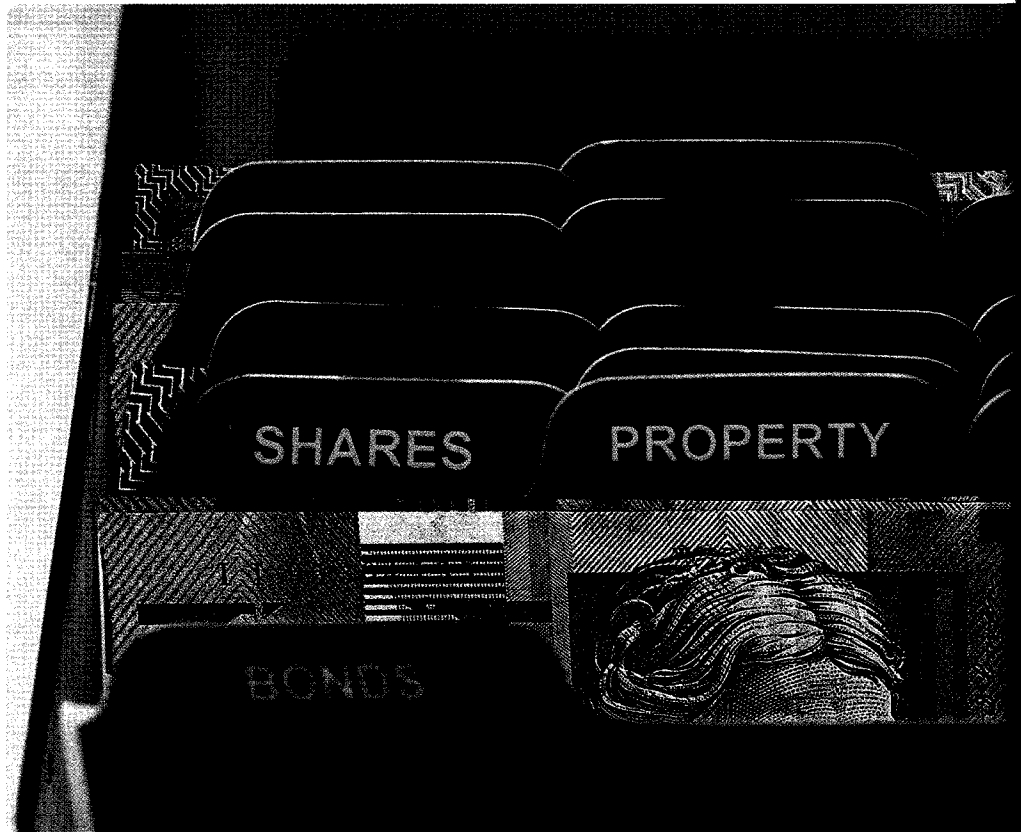


The importance of

To get a better understanding of the different factors affecting the success of a retirement portfolio, JIM OTAR redefines the term 'success'



Different variations of the following quote appear in articles, sales brochures, and newsletters in our business.

"Research has shown that asset allocation is the single largest contributor to a portfolio's success. It is much more important than security selection. In fact, one study concluded that asset allocation accounted for over 90 per cent of the difference in a portfolio's investment return."

Each time I read this quote, I imagine myself at an auction: I can almost hear the auctioneer shouting: "I have 90 per cent for asset allocation, do I hear 100 per cent!"

What was this research? It is based on the

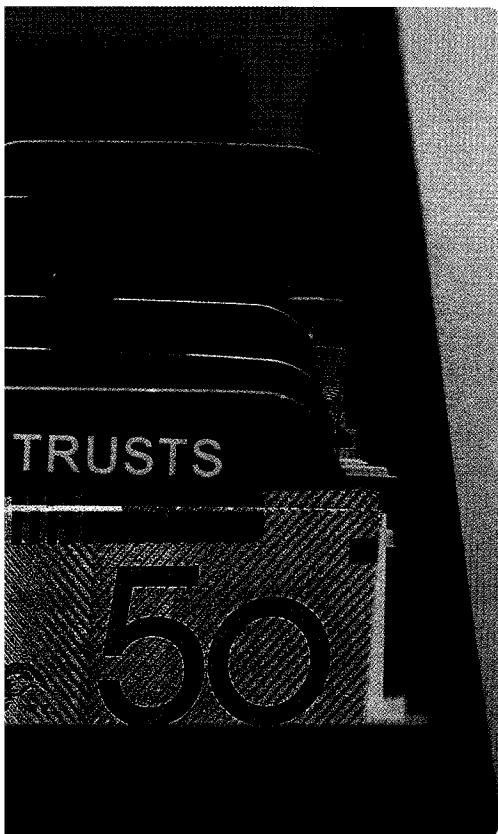
study by Gary P. Brinson, Randolph L. Hood, and Gilbert L. Beebower, *Determinants of Portfolio Performance II*, *Financial Analysts Journal*, January/February 1995. This was a follow-up study to their original one in 1986.

What did this research encompass? It analysed data from 91 large corporate pension plans with assets of at least \$100 million over a 10-year period beginning in 1974.

What was its conclusion? The components of the difference in success of a portfolio are: Asset allocation 93.6 per cent; Security selection 2.5 per cent; Other 2.2 per cent; Market timing 1.7 per cent.

I have no doubt this study is very important

a\$\$\$et allocation



for large pension funds. Asset allocation is one of the most important contributors to the success of such portfolios. However, the findings of this research cannot be applied to individual retirement portfolios for two reasons:

1. The portfolio management costs are vastly different; and
2. The dynamics of cash flow is entirely different.

There are many within our profession who try hard to make investors believe that asset allocation is the Holy Grail. When one opens an account, the first thing they do is to fill out a questionnaire to determine risk profile. Based on the client's answers, he or she is then pigeonholed into one of four or five investment

portfolios that reflects this risk tolerance.

The next step involves providing this new client with a 'retirement plan'. It shows precisely how the client's assets are expected to grow over time.

To get a better handle on the different factors affecting the success of a retirement portfolio, we need to redefine the term 'success'. I define success as the probability of the survival of a retirement portfolio. The lower the probability of running out of money during one's retirement; the more successful the portfolio. Let's look at four factors that influence success:

- ▶ luck;
- ▶ asset allocation;
- ▶ asset selection; and
- ▶ portfolio management costs.

Let's start with a specific example: Sam, 60, is retiring this year. He has saved \$500,000 for his retirement. He needs to withdraw \$30,000 in the first year of his retirement, adjusted for inflation in following years. He wants his money to last until age 85.

The 'luck' factor

We assume that Sam's equities perform the same as the index (Dow Jones Industrial Average [DJIA]). Using the Otar Retirement Calculator (www.retirementoptimizer.com) that is based on market history since 1900, the most optimum asset allocation for Sam's portfolio turns out 60 per cent fixed income and 40 per cent equities. We calculate what the portfolio life would be for each of the years since 1900. Then we plot this as shown in the chart (see p38). The upper part of the chart shows the value of the DJIA over time. The lower part of the chart shows how many years Sam's portfolio would have lasted if he retired in each of the years. We then calculate the probability of running out of money by age 85 – it is 66 per cent, even using the optimum asset allocation.

We see that the success of Sam's retirement

portfolio depends on *when* he retires relative to a secular market. If he catches the beginnings of a secular bull market like 1949 or 1982, his portfolio will likely be successful. If he happens to retire at any other time period, then it does not matter what you do with asset allocation, he will likely run out of money. I define this as the Luck Factor.

The 'asset allocation' factor

Now, let's figure out the contribution of the Asset Allocation Factor. Say Sam makes the wrong asset allocation decision: instead of optimum asset mix, he invests all his money into equities. What is the probability of running out of money by age 85? My calculation shows that it increases from 66 per cent to 72 per cent. This 'wrong' asset allocation decision costs Sam an additional 6 per cent in probability of depletion. The contribution of the Luck Factor (66 per cent) is 11 times that of the Asset Allocation Factor (6 per cent).

What if Sam invests all his money into fixed income instead of the optimum asset mix? Interestingly, the probability of depletion by age 85 remains at 66 per cent, the same as for the optimum asset mix.

The 'asset selection' factor

Say instead of a 'buy-and-forget' strategy, Sam follows his mutual funds closely with a disciplined system. He keeps only the best performing equity funds in his portfolio. As a result, the equity side of his portfolio outperforms the benchmark index by 4 per cent each year.¹

To figure out the contribution of the Asset Selection Factor, we calculate Sam's probability of running out of money by age 85. As it works out, it is 35 per cent. Sam's disciplined asset selection system creates a 31 per cent reduction

Continued on page 22 ▶

► *Continued from page 21*

in the probability of his portfolio's failure, calculated as 66 per cent minus 35 per cent. The contribution of the Asset Selection Factor (31 per cent) is about five times of that of the Asset Allocation Factor (6 per cent).

The 'cost' factor

Over the long-term, the cost of portfolio management eats away some of the portfolio growth. Let's assume that Sam buys an equity mutual fund that underperforms the index by 2 per cent because of its management expenses ratio (MER).

What is the probability of running out of money by age 85? It is 77 per cent. Thus, the contribution of the Cost Factor is 11 per cent,

calculated as 77 per cent minus 66 per cent. This 11 per cent Cost Factor is about twice that of the Asset Allocation Factor.

When we express the contribution of each factor in terms of percentage, the Luck Factor contributed 58 per cent, Asset Selection Factor 27 per cent, the Cost Factor 10 per cent, and the Asset Allocation Factor 5 per cent to the success of Sam's portfolio. These numbers are vastly different than the Brinson study.

Summary

In Sam's example, he needed \$30,000 annual income out of his retirement savings of \$500,000. Thus, his initial withdrawal rate was 6 per cent. For different initial withdrawal rates, we follow the same steps and calculate the contribution of each factor to the success

of a retirement plan for a 25-year time horizon as shown in table 1.

The following are some important observations.

► **Luck:** The contribution of the Luck Factor to the success of the portfolio is directly proportional to withdrawal rate. The higher the withdrawal rate, the more important becomes the Luck Factor.

► **Asset Allocation:** The contribution of the Asset Allocation Factor is inversely proportional to the withdrawal rate. The higher the withdrawal rate, the less significant is the Asset Allocation Factor.

► **Asset Selection:** Asset Selection Factor has an important contribution at all levels. However, we defined 'success' as the probability of survival of the portfolio. Therefore, at low withdrawal rates, the portfolio will survive without much help from the asset selection. As the withdrawal rate goes up and survival becomes more important, the Asset Selection Factor becomes more significant. However, at excessive withdrawal rates, even asset selection cannot help prevent the portfolio's demise, thus its contribution diminishes.

► **Management Cost:** The longer the portfolio survives, the larger is the cumulative management costs over the life of the portfolio. Therefore, the contribution of the Management Cost Factor is inversely proportional to the withdrawal rate.

In conclusion, I find peace of mind in recognizing that the Luck Factor can be the largest contributor to the success of a retirement portfolio. It gives me a sense of humility, keeps me following a disciplined asset selection system, and motivates me to look for retirement solutions that diminish the Luck Factor. As a side benefit, I gain the respect of my clients for telling them the truth, instead of blindly projecting future portfolio values like a fortune teller. ❖

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THE LUCK FACTOR

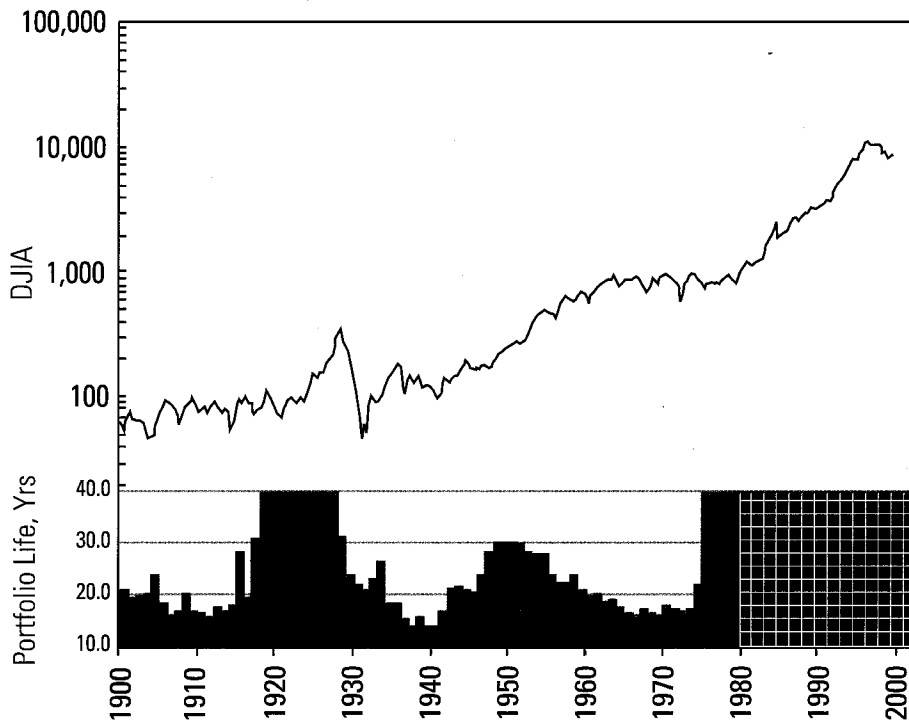


TABLE 1

	Initial Withdrawal Rate:		
	4%	6%	8%
	Contribution of each factor to the success of retirement portfolio:		
Luck in timing of retirement	7%	58%	78%
Asset Selection	7%	27%	14%
Management Costs	11%	10%	4%
Asset Allocation	75%	5%	4%

1. Our balanced model portfolio based on FingerPrinting technique (available in Canada) outperformed the index on the average by 6.7 per cent during 2001, 2002 and 2003.