the Risks of Concentrated Stock Portfolios

THE PROBLEM:

Individual stocks are more volatile and unpredictable than they were a generation ago.

WHAT IT MEANS FOR YOU:

Investors who follow the old rules—by holding just 10 to 30 stocks, for example—are taking unnecessary risks and are likely to underperform a properly diversified portfolio.

THE SOLUTION:

Diversify your portfolio with hundreds—even thousands—of stocks.

Imagine you're a typical Canadian with a large part of your portfolio concentrated in 10 to 30 stocks. Perhaps, like many active investors, you turn on BNN every afternoon to see how the TSX did during the day. The connection seems perfectly logical: you're invested in stocks, so you should be concerned about the stock market. But what if we told you that the broad market has little connection to your stock portfolio? So little, in fact, that you may as well switch off BNN for good.

The reality is, individual stocks have little in common with diversified portfolios—and the dissimilarities can make the difference between reaching your financial goals and going broke.

When you invest in stocks, the two flavours of risk are: the risk inherent in the stock market as a whole, and the extra layer of risk tied to the fortunes and misfortunes of individual companies. A diversified portfolio is subject only to the first kind of risk. But with most individual stocks, more than half of the risk is company-specific—academic research shows that in some cases, this rises to 88%. That's why it makes little sense for the buyer of individual stocks to monitor the TSX: the movements of the broad market may have only a trivial effect on the companies in his portfolio.

Conventional wisdom says you can adequately diversify a portfolio with fewer than 30 stocks. The evidence says otherwise

A 10 to 30 stock portfolio is NOT enough diversification

Rob McClelland, HBA, R.F.P., CFP
Member of FFG

The McClelland Financial Group
905.771.5200
rmcclelland@assante.com
www.tmfg.ca

RISK WITHOUT REWARD

All investors understand that there is no reward without risk. But not all risks offer the promise of higher returns. When Green Bay Packers quarterback Aaron Rodgers takes the field, he accepts that playing in the NFL carries the risk of injury, but the $10.4 million he received in 2011 was ample compensation. If Rodgers were to play without a helmet, he would certainly be increasing his risk. But his performance would not improve, and he would receive no additional pay. Playing football without a helmet is what an economist would call uncompensated risk.

This same principle applies to investing in individual stocks. Overall market risk cannot be diversified away no matter how many stocks you own. That's a good thing, since this risk premium is why stocks have a positive expected return. Holding individual companies, however, simply adds additional risk without raising an investor's expected long-term returns. On the contrary: an investor with a concentrated portfolio is like a bareheaded quarterback.

Volatility of individual stocks has increased dramatically over the past 4 decades

How many stocks does an investor need in a portfolio before company-specific risk vanishes? Benjamin Graham's The Intelligent Investor, first published in 1949, suggested that investors could minimize portfolio volatility by holding as few as 10 stocks. Later estimates were somewhat higher—often 20 or 30 stocks. But a paper published in 1999 by Burton Malkiel, of Princeton University and author of the classic finance book A Random Walk Down Wall Street, presented evidence that the volatility of individual stocks increased during the 1980s and 1990s—even as the volatility of the overall market remained the same.

That trend has continued during the last decade, as high-frequency trading and more institutional ownership has further increased the price swings of individual companies. A 2008 analysis by Jim Davis of Dimensional Fund Advisors found that even a 50-stock portfolio was more volatile than the overall market. Davis's striking conclusion was that the investment landscape has changed, and the old ideas are giving many investors a false sense of security. He demonstrated that a truly diversified portfolio now requires thousands of stocks.

A truly diversified portfolio now requires thousands of stocks
~ Research conclusion of 2008 analysis by Jim Davis, Dimensional Fund Advisors

The high cost of volatility

Risk-tolerant investors may argue that they are comfortable with volatility—and that may be true. But the benefit of low portfolio volatility is not simply that it makes jittery investors feel comfortable. The more important point is that the mathematics of compounding dictate that lowering volatility increases the likelihood of higher equity returns over the long term.

To illustrate this idea, David Booth, chairman and co-founder of Dimensional Fund Advisors, ran a robust analysis of one million simulations using data from 1926 to 2009. Booth compared the results of a diversified portfolio with those of a concentrated portfolio that had the same average monthly return, but twice the volatility. His data give us the range of possible outcomes over a 25-year period:

	ANNUALIZED RETURN		GROWTH OF $1	
PERCENTILE	DIVERSIFIED	CONCENTRATED	DIVERSIFIED	CONCENTRATED
95	16.3%	17.4%	$43.95	$55.38
90	14.8%	14.3%	$31.35	$28.00
70	11.6%	7.8%	$15.42	$6.55
50	9.4%	3.5%	$9.43	$2.36
30	7.2%	-0.7%	$5.74	$0.84
10	4.2%	-6.6%	$2.78	$0.18
5	2.7%	-9.3%	$1.96	$0.09

Source: David G. Booth, "A New Look at Diversification," Dimensional Fund Advisors, 2009.

Volatility has a corrosive effect on your money's ability to compound

The 50th percentile is the median: in other words, half of the simulations would have produced a better result than this figure, and half a worse result. In Booth's sample, summarized in the above table, the median annual return of the diversified portfolio was 9.4%, compared with just 3.5% for the concentrated portfolio. One dollar in the median diversified portfolio would have grown to $9.43 over 25 years, whereas the same dollar in the concentrated portfolio grew to only $2.36.

Overall, the probability of a diversified portfolio outperforming over 25 years was approximately 95%. The concentrated portfolio not only lagged 19 times out of 20, but it had a 30% probability of ending the period with negative returns (indicated by the red numbers).

Recommendation: own a globally diversified portfolio of thousands of stocks

Booth's data demonstrate that volatility has a corrosive effect on your money's ability to compound. Recall that the two portfolios had the same average return: the reason that the compound returns of the diversified portfolio are so much higher (in all but the most extreme cases) is entirely due to volatility. To reach your investment goals, therefore, the best way to put the odds of success in your favour is avoid concentration and instead own a globally diversified portfolio of thousands of stocks.

This paper was co-written by the members of the Final Frontier Group (FFG). Founded in 2006, the FFG is an independent study group comprised of six successful portfolio managers and financial advisors affiliated with various firms across Canada. The mandate of the Final Frontier Group is to facilitate the sharing of unbiased "best practice" ideas and portfolio research.

The common thread uniting members of the group is a keen interest in the science of investing and the desire to excel at client service. The advisors in the FFG collectively oversee more than $1 billion worth of private client assets..

THE MEMBERS OF FFG ARE:

Steve Lowrie
www.lowriefinancial.com

Arthur W. C. Johnson
www.johnsonwealthgroup.ca

Keith Matthews
www.tma-invest.com

Don Proteau
www.donproteau.com

Rob McClelland
www.tmfg.ca

Daryn Form
www.darynform.com