

## Alley Company Commentary Principles of Compounding: Part 2 in a Series

### Compounding in an Asset Allocation Framework

In our last commentary we discussed the importance of choosing the right stocks as compounding vehicles and analyzed the stock price performance of Walgreens versus General Motors over the past ten years. Walgreens' superior consistency and predictability of earnings growth allowed its stock to appreciate twelve-fold during the decade of the nineties, while GM, due to its inconsistency, failed to even double in value. The net of this essay was that consistency and predictability of earnings growth are important investment characteristics in generating superior compound returns over time.

Our follow on essay focuses on portfolio volatility of returns and the impact of asset allocation shifts on compounding. Asset allocation is a key topic in the investment world. At its core, asset allocation seeks to increase the overall return from a portfolio for a given degree of risk, or to reduce the overall risk from the portfolio for a targeted level of return. For asset allocation to achieve successful investment results over any meaningful time frame, the *right asset classes* with the *right properties* need to be blended together in the *right proportions*. The investor must have some sense of long-term perspective and purpose in the execution of such a program in order to maximize the effects of compounding.

The biggest mistakes we see investors make in implementing an asset allocation program are twofold. One is over-diversification, which can dramatically dilute returns beyond the intended risk reduction that diversification can provide. The other is trading in and out of various asset classes and failing to "time the markets" effectively. Both of these serve to reduce the powerful effects of compounding over time.

To illustrate, consider the performance history of large cap U.S. stocks versus the four asset classes shown in the tables below, during the decade of the nineties and during the period 1945-1998. Table 1 compares annual returns in relation to risk (which is measured by the standard deviation of returns) during the period of examination. The most meaningful way to analyze the historical returns of an asset class is to take into account the risk associated with generating the given returns. Historical risk/return analysis can be a valuable guide in forecasting the future risk/return potential of asset classes. This in turn is useful in determining an appropriate asset allocation mix.

**Table 1 – Return vs. Risk**

<u>Asset Class</u>	<u>Index/Source</u>	<u>1945-1998</u>		<u>1990-1999</u>	
		<u>Annualized Return</u>	<u>Standard Deviation</u>	<u>Annualized Return</u>	<u>Standard Deviation</u>
U.S. Large Capitalization Equities	S&P Composite Index Total Return	13.2%	16.6	18.2%	13.4
U.S. Small Capitalization Equities	Dimensional Fund Advisor Small Company Fund	14.5	25.9	13.4	17.2
EAFE Equities	MSCI Europe, Australasia, and Far East (EAFE) Index	11.5	25.8	7.0	17.1
Emerging Markets Equities	International Finance Corporation Composite Index	14.8	31.0	11.0	23.8
U.S. Long Treasury Bonds	Ibbotson Associates Long-Term Government Bond Index	5.7	10.3	7.7	3.9

Source: Morgan Stanley

**Table 2 – Annual Returns**

<u>Equity Indices</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
S&P 500 (large cap)	(3.1) %	30.5 %	7.6 %	10.1 %	1.3 %	37.5 %	22.9 %	33.4 %	28.6 %	21.0 %
Russell 2000 Index (small cap)	(19.5)	46.0	18.4	18.9	(1.8)	28.4	16.5	22.4	(2.5)	21.3
MSCI EAFE Net Divs	(23.4)	12.1	(12.2)	32.6	7.8	11.2	6.0	1.8	20.0	27.0
MSCI EMF Gross Div	(10.6)	59.9	11.4	74.8	(8.7)	(5.2)	6.0	(11.6)	(25.3)	66.4
Lehman Aggregate (bonds)	9.0	16.0	7.4	9.7	(2.9)	18.5	3.6	9.7	8.7	(0.8)

Source: Morgan Stanley

In analyzing Table 1, a key point that surfaces is that the S&P 500 had the best risk/return characteristics in both time periods. Small cap stocks, EAFE, and emerging market equities had a minimum of *50% more risk* in generating ever so slightly better returns than the S&P during the time period 1945-1998, while providing much *lower returns* with 30%+ more risk during the decade of the nineties. U.S. treasury bonds yielded dramatically lower returns in both time periods with enough risk to make them unattractive vs. the S&P 500.

This analysis of risk vs. reward is significant when looking forward and making long-term asset allocation decisions. One might argue that the favorable competitive position of U.S. corporations in today's global economy overlaid on historical risk/return analysis suggests that a significant weighting in large cap U.S. stocks continues to be appropriate.

If an investor were to build an asset allocation program using these five asset classes (there are others to choose from), a strong case could be made to make the core weighting a portfolio of large cap U.S. stocks and wrapping the other four asset classes around it with appropriate weightings. The risk/reward analysis we have performed here is just one input that would be complimented by a number of other variables such as the economic outlook, the political environment, the inflation/interest rate outlook, and fundamental analysis concerning each asset class. Importantly, the objective is to select the most optimal asset allocation formula given a set of investment objectives. If this is done with long-term thinking in mind, an investor will likely achieve higher

compounding of returns and suffer less from over-diversification and the temptation to trade in and out of asset classes.

Taking the analysis one step further, look at the annual returns during the decade of the nineties for each of the five asset classes as shown in Table 2. The volatility (standard deviation) of returns in the three non-S&P equity asset classes was significantly higher than the S&P 500 primarily due to some big down years. While these down years were somewhat offset by some huge up years, the high volatility had a significantly negative impact on the compounding of annual returns. The S&P 500 had some sub par performance years, but produced greater consistency, and thus achieved the best risk-adjusted performance.

This analysis proves that choosing the right compounding vehicle, or weighted mix of compounding vehicles is the key to maximizing compound returns over time. The asset classes with the most consistent growth prospects tend to generate the most desirable risk/return profile within a given set of investment objectives.

In conclusion, we believe that a portfolio of proven and dominant U.S. growth stocks is deserving of a significant weighting in one's asset allocation mix. Wrapped around this core portfolio could be a mix of international equities, U.S. small cap growth stocks, and an appropriate fixed income portfolio, among other choices, all of course dependent upon the objectives of the individual investor. The objective in this process is to create an asset allocation mix that maximizes the investor's opportunity to compound returns over the long-term without committing the sins of over-diversification and tax inefficiency.

Please give us a call with your questions or comments.

November, 2000