

# VANDERBILT *Ave.* ASSET MANAGEMENT

Emad A. Zikry, President and Chief Executive Officer

## THE 80-YEAR PROBLEM: EXAMPLE AND MATHEMATICS

True Alpha	Correlation to Benchmark	Time to Measure
1%	.90	80 years
1%	.94	48 years
1%	.98	16 years
2%	.90	20 years
2%	.94	12 years
2%	.98	4 years
3%	.90	> 8 years
3%	.94	> 5 years
3%	.98	< 2 years

This table shows the sensitivity of measurement to assumptions about alpha and correlations. The first line indicates that if a manager had a true alpha of 1% and returns which had a correlation coefficient of  $r = .90$ , then 80 years would be required to assess whether the manager was adding value if you required 1 standard deviation of statistical significance. (To make measurement matters worse, the time goes up by the square of the standard deviation of statistical significance — i.e., for 2 standard deviations the time is 320 years, or  $2^2 \times 80$  years!)

The formula for the table was\*:  $Time\ to\ Measure\ T = \frac{\sigma_{pm}^2}{\alpha^2}$ .

where  $T$  = the time needed to determine whether a manager produced a long-run alpha that was statistically greater than the return of the benchmark at the level of one standard error (84%),  $\sigma_{pm}^2 = \sigma_p^2 + \sigma_m^2 - 2\sigma_p\sigma_m r_{pm}$  = the covariance of the difference between the two portfolios,  $\alpha$  = the difference in returns, and  $r_{pm}$  = the correlation between portfolios  $p$  and  $m$ .

The first line of the table was calculated with a simple assumption — the annual standard deviation is 20% for a managed portfolio and the

benchmark. The calculations were:  $Time\ to\ Measure = \frac{\sigma_{pm}^2}{\alpha^2} = \frac{\sigma_p^2 + \sigma_m^2 - 2\sigma_p\sigma_m r_{pm}}{\alpha^2} = \frac{(2)^2 + (2)^2 - 2(2)(2)(.9)}{(0.01)^2} = \frac{.04 + .04 - 2(.036)}{.0001} = \frac{.008}{.0001} = 80\ Years$

# **Emad A. Zikry**

## **Chief Executive Officer**

### **Vanderbilt Avenue Asset Management**

Emad is the Managing Partner and Chief Executive Officer of Vanderbilt Avenue Asset Management LLC. Vanderbilt's client base includes Multi-national Corporations, Public Funds, Foundations/Endowments, and Taft Hartley accounts.

Previously, Emad was Chairman of Institutional Business at Pioneer Investments. Pioneer investments has more than \$300 Billion in assets under management. The parent of Pioneer, UniCredit S.p.A., is the largest bank in Italy and the second largest bank in Europe. Pioneer had purchased Vanderbilt Capital Advisors, of which Emad was the founder and Chief Executive Officer.

Emad has had numerous articles published in professional and academic journals such as *The Journal of Forecasting*, *The American Economist* and *The Journal of Fixed Income*. He is a Board member of The National Investment Company. Emad was a member of the Board of Advisors of the Pacific Institute, The Advisory Committee of Fulcrum Global Partners, The Chief Executive Officers Club and formerly a board member of The Foreign Policy Association. He also served on the Board of Directors of the University of Albany Foundation, NextGen Healthcare Inc., The Park Avenue Bank, AA Bank and The New Providence Fund and Associates LP.

Emad is an FINRA Arbitrator. He is also a member of the National Association for Business Economists and The Economic Club of New York. Emad served as an adjunct professor at the University of Kansas and St. John's University.

Emad holds a Bachelor of Science from the University of Albany, and a M.A. and Ph.D. in Economics from the University of Kansas.