

# Journal of Indexes

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Active Index Investing

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And Bogle, Wiandt, Gastineau and Curmudgeon Columns

John Bogle



**John Bogle** is the founder and former CEO of The Vanguard Group Inc., and president of the Bogle Financial Markets Research Center. He created Vanguard in 1974 and had been associated with a predecessor company since 1951, following his graduation from Princeton University. The Vanguard Group comprises more than 100 mutual funds with assets totaling about \$550 billion. Bogle founded the Vanguard 500 Index Fund, the first index mutual fund, in 1975.

George Daniels Jr.



**George Daniels Jr.** is Senior Portfolio manager of the Dow Jones Global Portfolio Index Funds and Chairman/Chief Executive Officer of Global Index Advisors Inc. Daniels has served as an investment management consultant to both defined benefit and defined contribution retirement plans since 1966. Mr. Daniels has served in positions at Sperry Rand Corporation, IBM, Reynolds Securities, Dean Witter, The Robinson-Humphrey Company and The Quantidex Group.

Gary Gastineau



**Gary Gastineau** organized ETF Consultants LLC in May 2003 to provide specialized exchange-traded fund consulting services. He joined ETF Advisors, a new ETF management firm, in May 2002, after serving as managing director for ETF Product Development at Nuveen Investments. He also directed product development at the American Stock Exchange for approximately five years. His book, *The Exchange-Traded Funds Manual*, was published in February 2002 by John Wiley & Sons.

John Haslem



**John Haslem** is Professor Emeritus of Finance at the Robert H. Smith School of Business, University of Maryland, College Park. He served the Smith School as founding academic affairs dean and as founding chair of the finance department. His mutual funds analysis course was the first of its kind. Haslem has authored five books including *Mutual Funds: Risk and Performance Analysis for Decision Making* (Oxford: Blackwell Publishing) in 2003.

Ranga Nathan



**Ranga Nathan** is principal at InvestMatrix, a consulting firm specializing in structuring ETFs and hedge funds. Previously, Nathan worked on the development of equity & fixed-income ETFs at Nuveen, joining the firm in 2000. In 2002, he and a colleague bought the equity ETF business from Nuveen, leading to the launch of two ETFs in 2003. He has also managed hedge funds at Sakura, and consulted in risk overlay management. Nathan is a CFA charterholder.

Steven Schoenfeld



**Steven Schoenfeld** is the chief investment officer of Active Index Advisors (AIA), a San Francisco-based manager of customized enhanced index portfolios. He is the editor of the book *Active Index Investing* to be published this summer by John Wiley & Sons, founder of [www.IndexUniverse.com](http://www.IndexUniverse.com) and a senior research fellow at the Duke University Global Capital Markets Center. Prior to joining AIA, he was a managing director of Barclays Global Investors.

Ron Surz



**Ron Surz** has held senior positions in the investment consulting and financial services industry since 1972 and is currently president of PPCA Inc., a firm that provides investment monitoring and performance attribution tools to the investment consulting industry. He is also a principal of Risk Controlled Growth (RCG) Capital Advisors LLC, manager of funds-of-funds hedge fund portfolios. Surz was awarded an MBA in Finance from the University of Chicago in 1974.

Brad Zigler



**Brad Zigler** formerly served as head of marketing, education and research for the Pacific Exchange and Barclays Global Investors. Zigler is a founding member of the Global Association of Risk Professionals Education Committee, and has contributed to theStreet.com, CBS MarketWatch, Institutional Investor, Financial Planning, CRB Trader, Mutual Funds and Registered Rep.

# Benchmarks For Total Portfolios

Asset Allocation Made Easy

By George Daniels



Illustration By Rob Colvin

Our firm, Global Index Advisors, was originally engaged in helping corporate and public pension plans and foundations select active money managers. By 1993, principals at the firm had reached the conclusion that asset allocation strategy and portfolio control are as important, if not more important, than the actual managers employed. At that time there were no indexes available that could be used as standard benchmarks for asset allocation strategists or as portfolio building blocks. Global Index Advisors began developing total portfolio indexes in 1993, and began publishing Quantidex Global Portfolio Indexes on a monthly basis on January 1, 1995.

Quantidex Global Portfolio Indexes were composite “indexes of indexes.” The component indexes were four State Street Global Advisors Muldex U.S. style indexes (large growth, large value, small growth, and small value), the MSCI EAFE Index, the IFC Liquidity Tiered Foreign Emerging Markets Index, and five Lehman Fixed-Income Indexes. The Quantidex 100% Global Portfolio Index was equal-weighted and rebalanced the six equity indexes monthly. It was designed to represent the full risk and return potential of the diversified global stock market, from the perspective of a total portfolio builder. The four “balanced” portfolio indexes (Quantidex 80%, 60%, 40% and 20% Global Portfolio Indexes) invested equity assets equally in the six stock indexes and then, to reduce total portfolio risk, invested in the four bond indexes and cash. The balanced indexes were designed (using a version of modern portfolio theory) to deliver appropriate returns while taking 80%, 60%, 40% and 20% respectively of the risk of the 100% Global Portfolio Index. Risk was defined as below mean variance over the trailing 36-month period.

In 1997 principals of Global Index Advisors met with representatives of Dow Jones Indexes and suggested that Dow Jones consider renaming Quantidex Global Portfolio Indexes Dow Jones Global Portfolio Indexes and begin publishing them on a daily basis. Dow Jones agreed in theory, but at the time Dow Jones did not publish equity style indexes in all the equity categories included in the Quantidex Indexes.

To solve the problem, and using State Street Global Advisors’ Muldex methodology as the starting point, Dow Jones Indexes, State Street Global Advisors and Global Index Advisors collaborated in the development of Dow Jones U.S. Style Indexes (large growth, large value, mid growth, mid value, small growth and small value).

Dow Jones Style Indexes use float weighting, buffer rules, and multi-factor analyses to differentiate growth and value stocks in three capitalization categories: large, mid, and small. Securities not having distinctly growth or value characteristics are classified as “neutral” securities, and are excluded from both growth and value categories.

Concurrently, Dow Jones Indexes and Global Index Advisors jointly developed three foreign stock indexes to complete the suite of Dow Jones Global Style Indexes (European/Canada, Asia/Pacific and Institutional Emerging Markets).

With all component equity indexes in place, and using Quantidex methodology as the starting point, Dow Jones Indexes and Global Index Advisors developed Dow Jones

Global Portfolio Indexes and Dow Jones U.S. Portfolio Indexes. Portfolio indexes are used to benchmark total portfolios at various levels of risk. Both portfolio indexes series are published in the *Wall Street Journal* and major index databases as standard benchmarks for total portfolio performance. Morningstar uses Dow Jones Portfolio Indexes as benchmarks for approximately 1,250 U.S. and worldwide asset allocation funds containing approximately \$450 billion in assets.

Global Index Advisors, through relationships with Dow Jones Indexes, Mercantile Mutual Funds and State Street Global Advisors, offers a complete set of investable Dow Jones U.S. Style and Dow Jones Portfolio Index Funds.

## Index Design: General Remarks

The ultimate purpose of an index series is to help investors make more money. Indexes are first and foremost educational and analytical tools.

Properly designed indexes containing liquid securities and having long histories help investors better understand true market dynamics.

Understanding market dynamics allows investors to develop rational strategic investment policies.

The availability of index funds based on properly designed indexes allows investors to closely match investment policy with actual portfolio construction.

Index methodology must, of course, be academically sound. The math may be complex, but methodology concepts must be very simple to explain in layman’s terms.

The duty of an index developer should be to create indexes that meet the high academic standards of informed investors, but at the same time are educational, understandable and useful for less sophisticated investors.

## Why Total Portfolio Indexes?

The largest pension plans and foundations in the United States invest in a wide variety of asset classes to build broadly diversified portfolios (a mix of U.S. and foreign stocks and bonds, real estate, venture capital, etc.).

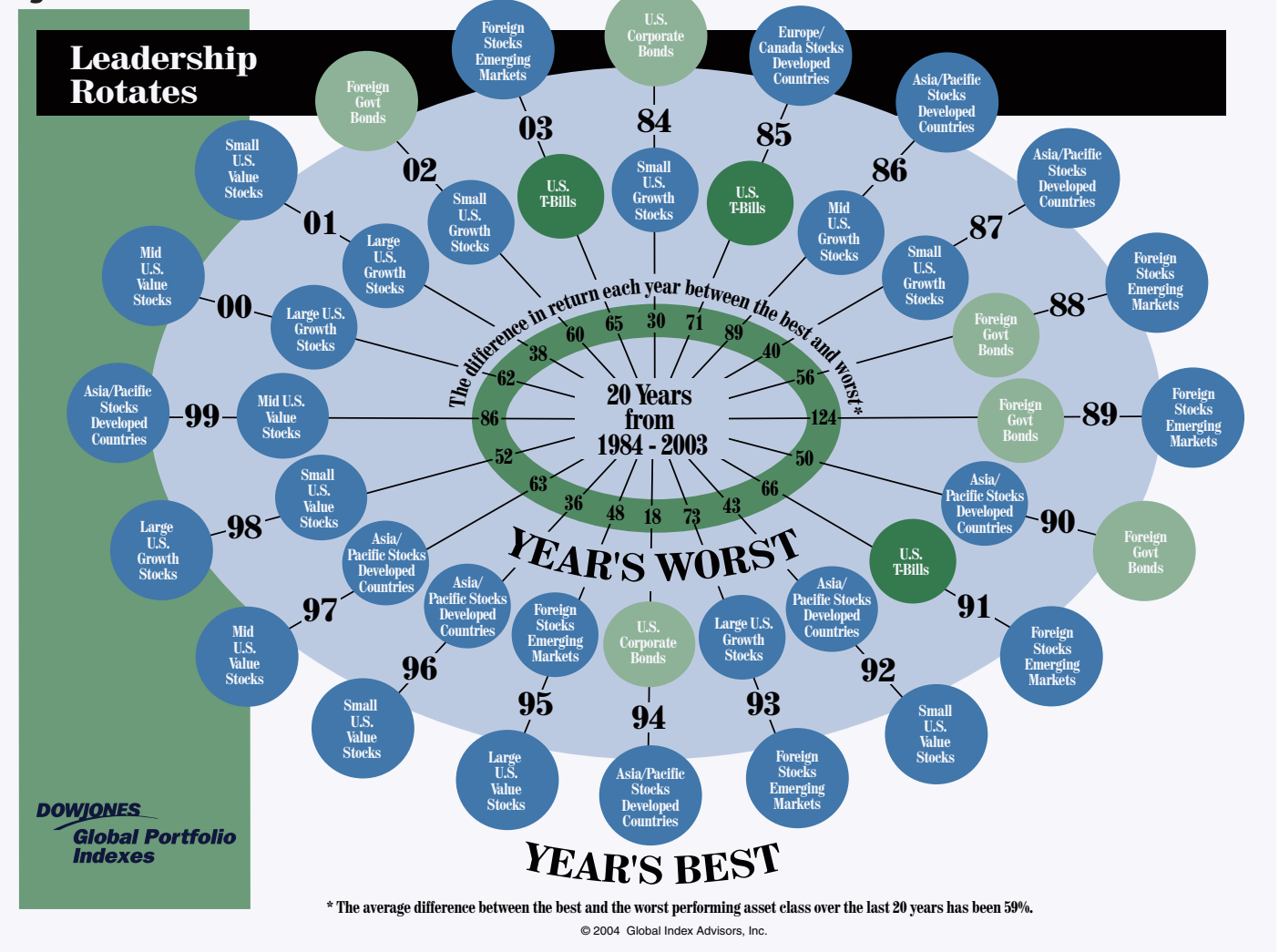
When the returns of all components of an investment program are properly weighted and aggregated, the result is represented by a single performance point on a risk/return graph. The total portfolio has an average return and has experienced a quantifiable level of risk (expressed as standard deviation or below mean variance).

Large pension plans and large foundations are not the only portfolio builders. All individuals who invest with personal money, in 401(k) plans or in IRAs are portfolio builders, and total portfolio performance is inescapably represented by a single performance point on a risk/return graph.

As part of the investment process, each investor (pension plan, foundation or individual) has made four major asset allocation decisions:

- A conscious decision to own specific investments.
- A decision not to own other types of investments (conscious or by default).
- A conscious decision to own specific amounts of chosen investments.
- A decision concerning portfolio rebalancing strategy

Figure 1



(conscious or by default).

Excluding an investment opportunity (consciously or not) can have more effect on portfolio return and risk than actually making an investment.

The availability of easily understood portfolio indexes:

- 1) Provides the framework for development of sound asset allocation strategies and
- 2) Enables plan sponsors, foundations and individuals to measure past investment decisions.

Portfolio indexes provide the answer to one of the most important investment questions: Did the investor achieve a market-standard return considering the amount of risk taken?

### The Problems

1) A discussion of appropriate portfolio return and risk is complicated by the fact that most portfolios contain three fundamentally different types of securities:

- Cash—Low Risk/Low Return
- Bonds—Medium Risk/Medium Return
- Stocks—High Risk/High Return

2) A further complication is that the three major asset classes (cash, bonds and stocks) are made up of many subcategories of investments: CD's, T-Bills, U.S. government bonds, foreign government bonds, U.S. large-cap growth stocks, for-

eign emerging markets stocks, etc.

3) In any given year any one of these subcategories may have the highest or lowest return. No one consistently predicts which asset class will be the winner or the loser in the near future. See Figure 1 (Leadership Rotates).

4) Most investors do not understand the implications (risk and potential return) of investing in the various components of the securities market. See Figure 2 (Distinct Asset Classes Risk/Return Graph) which shows 21 years of history for the major investment asset classes on a risk/return graph. However to the average investor, a risk/return graph is practically meaningless.

Figure 3 (Risk and Return Characteristics of Asset Class) shows behavior of the asset classes that the average investor can easily understand. Best and worst 12-month returns are expressed in both percentages and dollars.

5) Having an understanding of the behavior and relationship patterns of various market components as described by indexes does not solve the problem, since the investor must still select funds to provide access to the asset classes chosen. Figure 4 (Risk/Return of Mutual Funds versus U.S. Portfolio Indexes) shows all mutual funds in the Morningstar database having 16-year histories. Selecting funds, properly weighting them to meet a risk/return objective and having some expect-

tation of the consequences of a particular strategy is a daunting task for even the most experienced investor.

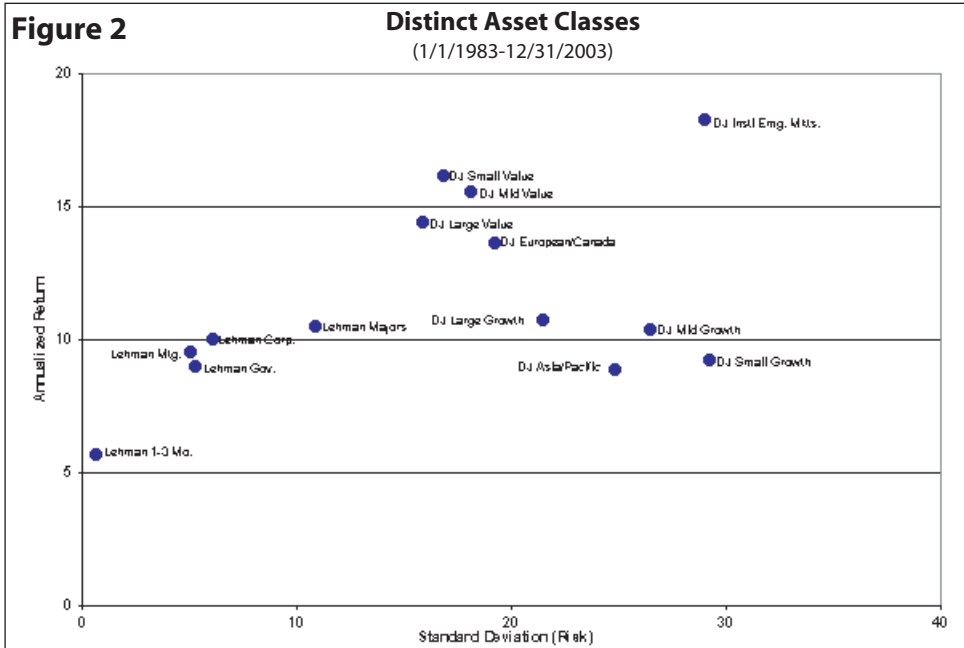
### Solutions

To provide a simple framework for developing asset allocation strategies and to satisfy the need for standard, understandable benchmarks for multiple asset class portfolios (including "Asset Allocation Funds" and "Life Style Funds"), Dow Jones Indexes developed Dow Jones Portfolio Indexes.

A simple questionnaire and access to the portfolio indexes information contained in Figure 5 (Dow Jones Global Portfolio Indexes vs. Dow Jones U.S. Portfolio Indexes) allow investors

to choose a basic asset allocation strategy and understand the potential risk/return implications. Most accessible asset categories are represented in one of the portfolio indexes. Behavior of each asset class is shown in Figures 3 and 4, so that there is no misunderstanding of the potential behavior of the components. Total equity portions of each Portfolio Index equal-weight the equity components, an easily understood reversion to the mean concept.

The all-stock Dow Jones 100% Global Portfolio Index (P100) is constructed by equally weighting nine stock indexes (Dow Jones large growth, large value, mid growth, mid value, small growth, small value, Europe/Canada, Asia/Pacific and Institutional Emerging Markets). The objective of the index is to represent 100% of the risk and return potential of the diversified global stock market. The four "balanced" indexes (P80,



P60, P40 and P20) are constructed using the nine stock indexes, equally weighted, four bond indexes (U.S. Corporate, U.S. Government, U.S. Mortgage Backed and Foreign Government, equally weighted) and one cash index as components. Each balanced Portfolio Index blends, according to a mathematical formula, varying amounts of the stock, bond and cash components to create composite indexes having specific levels of relative risk and expected return. For instance, P80, P60, P40, and P20 Global Portfolio Indexes are designed to have mixes of stocks, bonds and cash incurring 80%, 60%, 40% and 20% respectively of the risk and return potential of P100.

The all-stock Dow Jones 100% U.S. Portfolio Index (US100) is constructed by equally weighting six stock indexes (Dow Jones large growth, large value, mid growth, mid value, small growth, and small value). The objective of the index is to represent 100% of the risk and return

potential of the diversified U.S. stock market. The four "balanced" indexes (US80, USP60, US40 and US20) are constructed using six stock indexes, equally weighted, three bond indexes (U.S. Corporate, U.S. Government and U.S. Mortgage Backed, equally weighted) and one cash index as components. Each balanced Portfolio Index blends,

**Figure 3 Risk and Return Characteristics of Asset Classes**

	Return (%)	Risk (%)	Best 12 Mos (%)	Worst 12 Mos(%)	Best 12 Mos (\$)	Worst12 Mos(\$)*
Dow Jones Large Growth Index	10.70	21.51	60.09	-51.98	160,090	48,020
Dow Jones Large Value Index	14.37	15.92	50.64	-23.19	150,640	76,810
Dow Jones Mid Growth Index	10.35	26.51	98.91	-50.97	198,910	49,030
Dow Jones Mid Value Index	15.52	18.15	76.01	-17.77	176,010	82,230
Dow Jones Small Growth Index	9.19	29.22	116.49	-44.78	216,490	55,220
Dow Jones Small Value Index	16.17	16.85	75.40	-24.18	175,400	75,820
Dow Jones European/Canada Index	13.62	19.23	109.72	-27.32	209,720	72,680
Dow Jones Asia/Pacific Index	8.85	24.86	123.83	-40.62	223,830	59,380
Dow Jones Inst'l. Emerging Markets Index	18.24	29.04	122.07	-48.13	222,070	51,870
Lehman Corporate Bond Index	10.02	6.14	41.90	-8.55	141,900	91,450
Lehman Government Bond Index	8.98	5.29	30.35	-4.47	130,350	95,530
Lehman Mortgage Bond Index	9.52	5.11	48.74	-11.90	148,740	88,100
Lehman Majors Ex- U.S. Bond Index	10.49	10.91	60.90	-11.50	160,900	88,500
Lehman 1-3 Month T-Bill Index	5.68	0.69	10.41	1.03	110,410	101,030

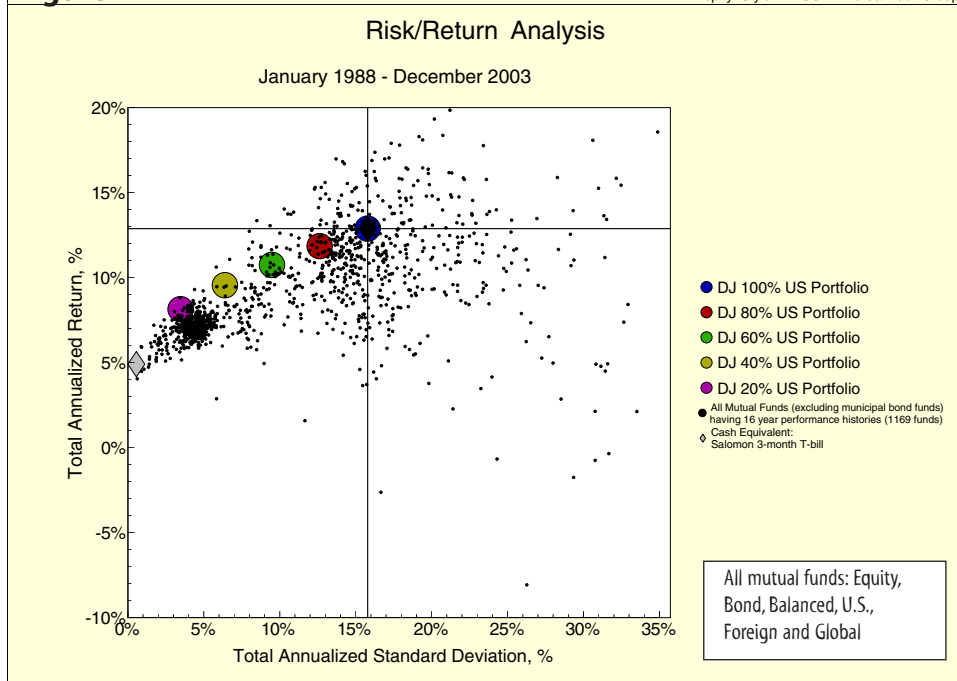
Source: Dow Jones and Lehman Brothers

\*Assume that at the beginning of the worst (or best) 12 months period, your investment in this index was worth \$100,000. At the end of the worst (or best) 12 month period, your investment would have been the dollar amount shown.

Data for the period 1/1/1983 - 12/31/2003

**Figure 4**

Zephyr StyleADVISOR: The Carmack Group



ring 80%, 60%, 40% and 20% respectively of the risk and return potential of US100.

If an investor is content to replicate the asset allocation of one of the portfolio indexes and use appropriate index funds as building blocks, risk and return characteristics of the resulting portfolio will approximate the characteristics of the Portfolio Index.

Many investors, however, wish to use “best of breed” active funds in each asset class, seeking to capture alpha versus the selected Portfolio Index. Alpha may be achieved, of course, by selecting funds having superior performances or by successfully tilting the portfolio.

Several organizations are currently working on software that:

- 1) Uses Dow Jones Style Index data to identify disciplined “best of breed” funds, and
- 2) Allows investors to identify tilt strategies having significant alpha potential.

**Conclusion**

Portfolio indexes were NOT designed to show optimal returns at given levels of risk.

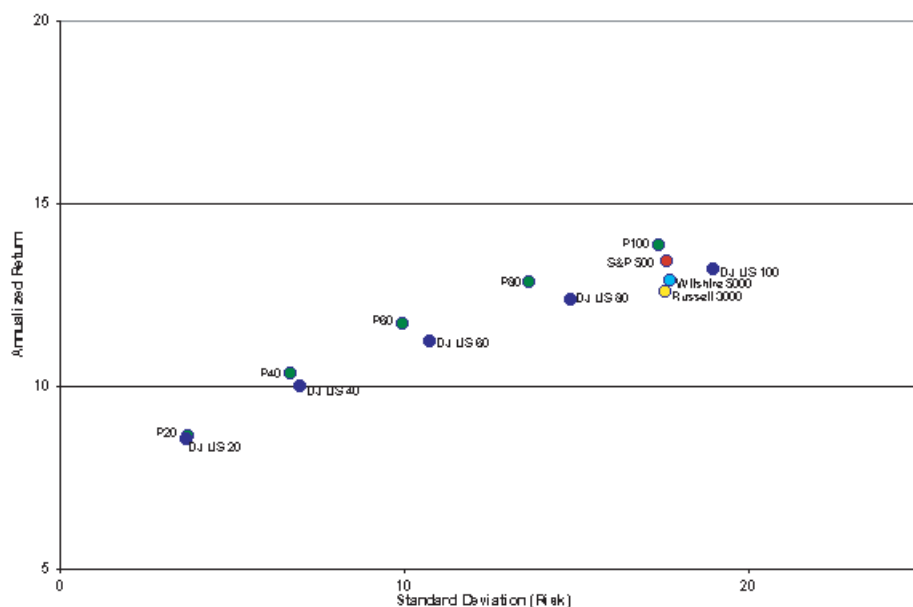
They were designed:

- 1) To represent reasonable and obtainable benchmark returns at each risk level, and
- 2) To serve as baseline structural framework for the development of total portfolios having predictable risk and return characteristics.

Portfolio indexes place an investor’s focus where it should be—on asset allocation. By providing sensible and easy to understand allocations at various levels of risk and reward, the portfolio

indexes provide sound benchmarks for portfolios with different levels of risk. Like any good index, the balanced funds products tracking these indexes also provide investors with a sensible way to invest at various levels of return in pursuit of an optimal risk/reward portfolio profile.

**Figure 5 Dow Jones Global Portfolio Indexes vs. Dow Jones U.S. Portfolio Indexes, 1/1/1983 - 12/31/2003**



according to a mathematical formula, varying amounts of the stock, bond and cash components to create composite indexes having specific levels of relative risk and expected return. For instance, US80, US60, US40, and US20 Indexes are designed to have mixes of stocks, bonds and cash incur-



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