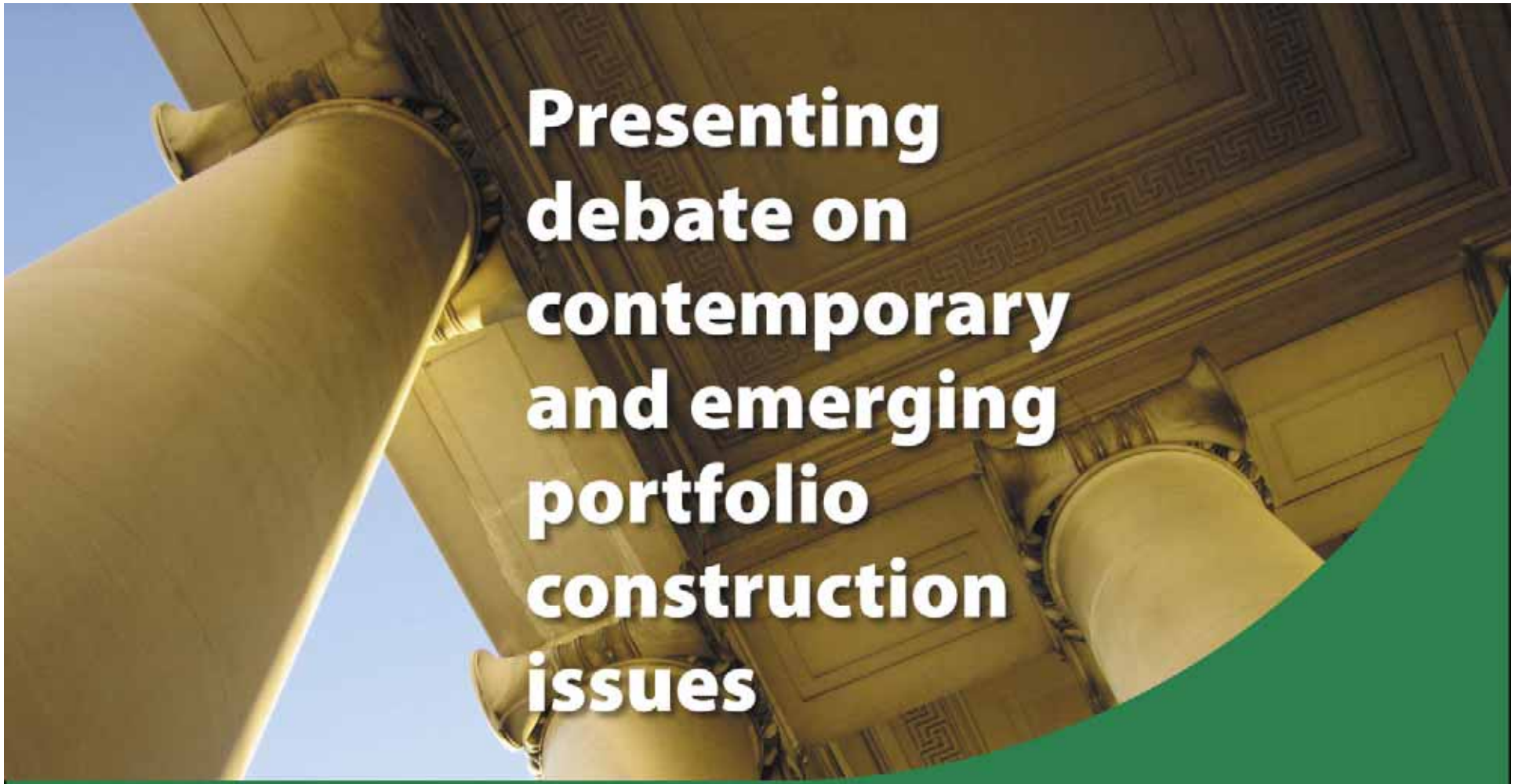


portfolio construction | CONFERENCE

15 & 16 August 2007 | AJC Convention Centre, Randwick, Sydney

I've been thinking about…

Emerging trends in portfolio construction

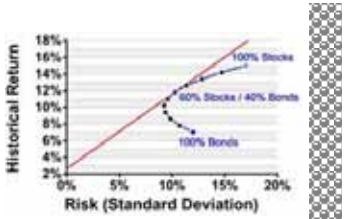
Speaker

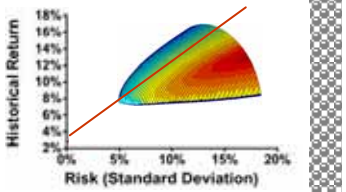
Bryce James, CEO, Smart Portfolios

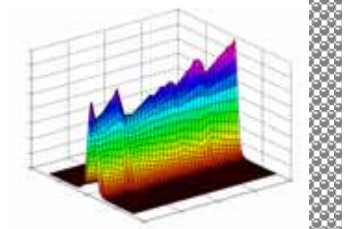
Inquisitors

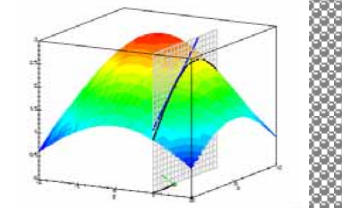
Bob Veres, Editor, *Inside Information*

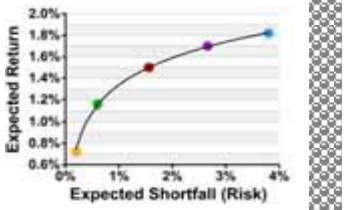
Harry Cator, Head of Investments, JM Financial Group











Smart Portfolios™ LLC

Presents

I've been thinking about… emerging trends in portfolio construction

Presentation to PortfolioConstruction Conference 2007

Smart Portfolios, LLC

- **The Company:**

  Organized in April, 2002 as Asset Labs, LLC, the firm specialized in building custom trading algorithms and performance measurement software solutions.

  The company was registered as an RIA in 2004 to exclusively manage assets using Extreme Value Theory (and its application to asset allocation - Dynamic Portfolio Optimization).

  DPO was created through a collaboration of world renowned scientists who have formulated, designed and implemented the most advanced asset allocation solution available in the market today.

- **Mission:** To Power Financial Independence

- **Goal:** SWAN: To enable investors to ‘Sleep Well at Night’

- **Objective:** Provide investors optimized risk-adjusted investment performance

- **Headquarters:** Seattle, WA

Covered in this Presentation

What is Asset Allocation?

Flaws in Modern Portfolio Theory

Upgrading Modern Portfolio Theory

Portfolio Diversification

Portfolio Optimization

Portfolio Management

Part 1

What is Asset Allocation?

Examining:

- Why Asset Allocation is Important
- Asset Allocation vs. Portfolio Optimization
- Portfolio Optimization Attributes
- Portfolio Optimization Process

Why is Asset Allocation Important?

"91.5%* of the Variation in Quarterly Returns are due to Asset Allocation"

** Brinson, Hood, Beebower , Financial Analyst Journal '86 (93.6% of quarterly variation)*
*** Brinson, Beebower & Singer, Financial Analyst Journal '91, '94 (91.5% of quarterly variation)*
**** Ryan Labs, Research Journal, '03*

Correct allocation between stocks, bonds, and cash over 10 years yielded three times the annual returns over the typical balanced fund

** Hamilton Johnson Study of the 1980's*

For 62% of the 401(k) plans (similar to Super-Annuation), the types of choices offered are inadequate, and that over a 20-year period this makes a difference in terminal wealth of over 300%

** Elton, Gruber, & Blake, The Adequacy of Investment Choices Offered by 401(k) Plans, 12/04'*

100 – Your Age = Equity % ≠ A Prudent Asset Allocation Mix

Portfolio Optimization

A Mathematical Approach to Asset Allocation

Portfolio Optimization - the quantitative process of calculating the optimal capital weightings for a basket of investments that gives highest return for the least risk.

Key Attributes of Portfolio Optimization Solution:

1. Measuring Risk
2. Measuring Expected Return
3. Diversifying Assets
4. Managing the Data

   (Time Periods, Clean Data, Accurate Data)
   - Static vs. Dynamic Model Features

A Scientific Approach to Portfolio Optimization

Optimization Process using Modern Portfolio Theory (MVO)

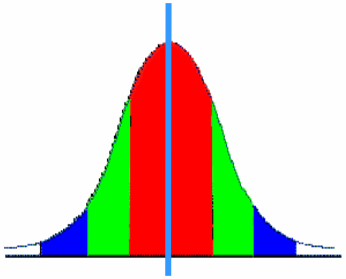
1. **Run a Univariate Model**
   - Measure Risk (Variance) & Return (Mean Variance) of each security using a Normal Distribution of daily frequencies

2. **Run a Bivariate Model**
   - Deploy dependency algorithms (Correlation) to determine optimal set of assets through a Correlation Matrix

3. **Run Multivariate Model**
   - Process additional securities to optimize portfolio

Univariate Model

Normal Distribution
(Risk & Return)



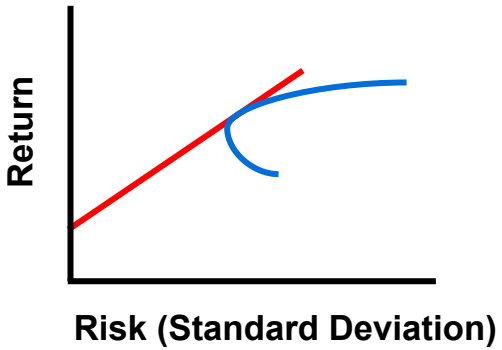
Bivariate Model

Correlation Matrix
(Diversification)

	A	B	C	D
A	1.0	.23	.78	-.41
B		1.0	.36	.19
C			1.0	-.28
D				1.0

Multivariate Model

Efficient Frontier
(Portfolio Optimization)



Part 2

Flaws in Modern Portfolio Theory

Examining:

- ‘Style Box’ Investing
- Data Handling & Integrity
- Dynamic Markets
- Processing Power
- Wall Street Myths

What is the Best Asset Mix Today?

Annual Returns by Asset Class – 1994 to 2003

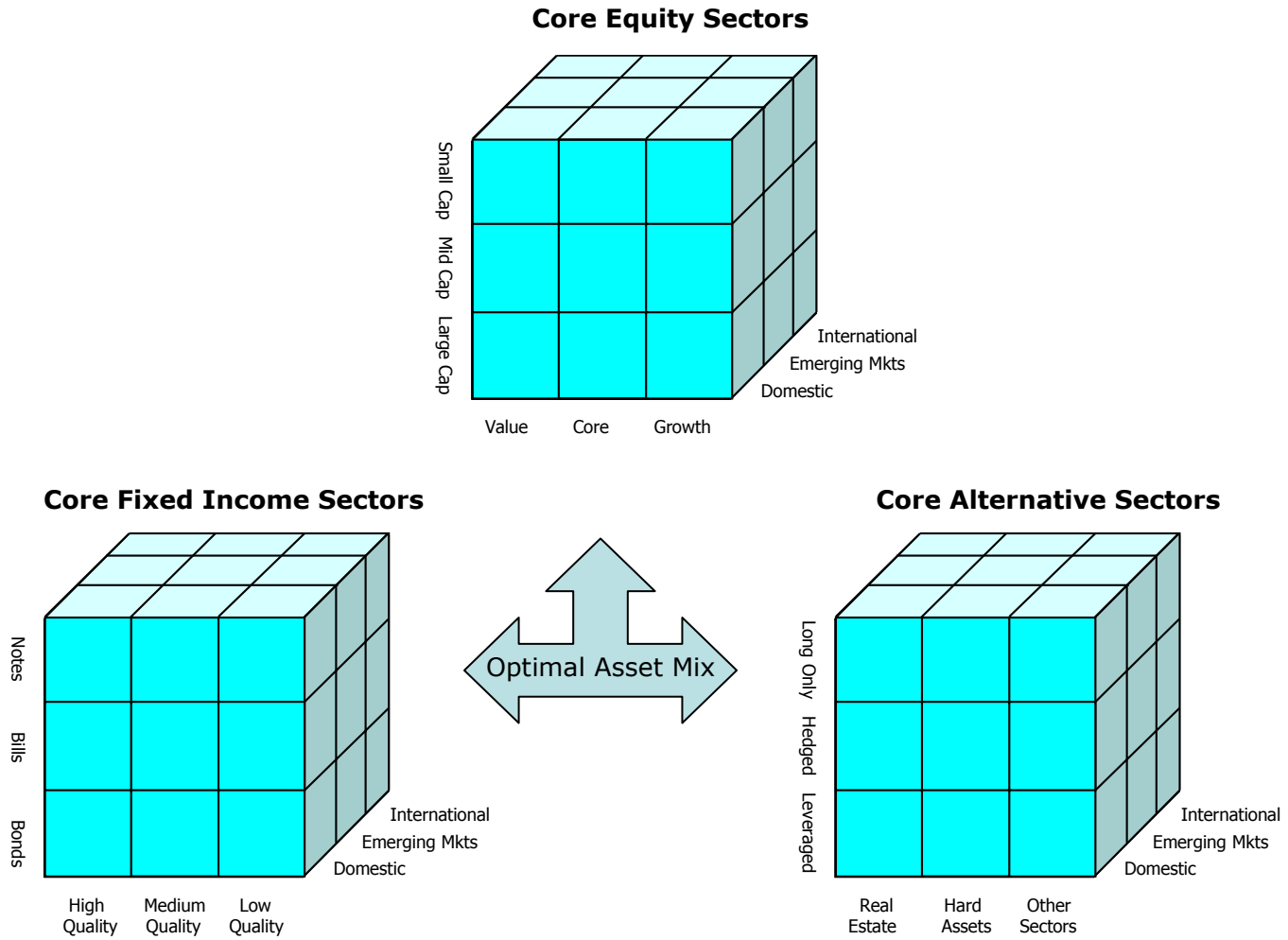
Rank	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Best	Bond Inverse 12.27% Beta -0.62	Equity Leveraged 51.30% Beta: 1.51	REIT's 35.26% Beta: -0.04	Equity Leveraged 43.86% Beta: 1.51	Equity Leveraged 36.03% Beta: 1.48	Sector Rotation 43.35% Beta: 1.23	Commodites 49.73% Beta: 0.3%	REIT's 13.93% Beta: 0.23	Commodites 32.07% Beta: -0.17%	Sector Rotation 54.74% Beta: 0.88
	Managed Futures 11.48% Beta -0.72	Sector Rotation 41.14% Beta: 0.17	Commodites 33.91% Beta: 0.66	S&P 500 33.36% Beta: 1.00	S&P 500 28.58% Beta: 1.00	Commodites 40.92% Beta: 0.37	REIT's 26.36% Beta: -0.1	Equity Inverse 13.18% Beta: -1.02	Equity Inverse 23.50% Beta: -1.02	Equity Leveraged 39.63% Beta: 1.52
	Equity Inverse 5.89% Beta: 1.02	Bond Leverage 39.51% Beta: 2.25	Equity Leveraged 28.21% Beta: 1.51	Wilshire 5000 31.29% Beta: 0.92	Sector Rotation 26.96% Beta: 1.02	Equity Leveraged 25.01% Beta: 1.50	Bond Leverage 22.79% Beta: 0.26	Bonds 8.42% Beta: -0.40	Bond Leverage 18.17% Beta: -0.49	REIT's 37.14% Beta: 0.40
	Commodites 5.29% Beta: -0.35	S&P 500 37.43% Beta: 1.00	S&P 500 23.07% Beta: 1.00	Hedge Funds 23.67% Beta: 0.83	Wilshire 5000 23.43% Beta: 1.06	Wilshire 5000 23.56% Beta: 1.06	Sector Rotation 14.78% Beta: 0.62	Bond Leverage 4.59% Beta: -0.34	Managed Futures 17.92% Beta: -0.71	Wilshire 5000 31.64% Beta: 1.01
	Cash 3.90% Beta: .00	Wilshire 5000 36.45% Beta: 0.96	Wilshire 5000 21.21% Beta: 0.95	Sector Rotation 20.42% Beta: 1.10	Managed Futures 19.69% Beta: -0.51	Hedge Funds 21.65% Beta: 0.69	Equity Inverse 11.81% Beta: -0.98	Hedge Funds 4.35% Beta: 0.64	Bonds 10.27% -0.73%	S&P 500 28.69% Beta: 1.00
	REIT's 3.17% Beta: -0.43	Commodites 20.33% Beta: -0.33	Hedge Funds 20.78% Beta: 0.72	REIT's 20.29% Beta: -0.34	Bond Leverage 19.45% Beta: -0.34	S&P 500 21.05% Beta: 1.00	Bonds 11.63% Beta: 0.41	Cash 3.83% Beta: .00	REIT's 3.81% Beta: 0.17	Commodites 20.71% Beta: -0.36
	S&P 500 1.31% Beta: 1.00	Hedge Funds 20.02% Beta: -0.17	Sector Rotation 15.67% Beta: 1.27	Bond Leverage 16.73% Beta: 0.45	Bonds 8.67% Beta: -0.42	Bond Inverse 19.34% Beta: -0.14	Cash 5.89% Beta: .00	Managed Futures 2.75% Beta: -0.71	Hedge Funds 3.04% Beta: 0.37	Hedge Funds 14.49% Beta: 0.54%
	Wilshire 5000 -7.00% Beta: 0.96	Bonds 18.48% Beta: 0.21	Managed Futures 11.83% Beta: 0.54	Bonds 9.68% Beta: 0.69	Cash 4.86% Beta: .00	Cash 4.68% Beta: .00	Hedge Funds 5.82% Beta: 0.20	Bond Inverse -5.01% Beta: 0.28	Cash 1.64% Beta: .00	Managed Futures 14.17% Beta: 0.04
	Sector Rotation -0.89% Beta: 0.90	REIT's 15.27% Beta: 0.49	Cash 5.21% Beta: .00	Cash 5.26% Beta: .00	Hedge Funds -0.35% Beta: 0.54	Bonds -.83% Beta: 0.34	Managed Futures 4.82% Beta: -0.12	Sector Rotation -9.88% Beta: 0.53	Bond Inverse -15.31% Beta: 0.41	Bonds 4.11% Beta: -0.04
	Bonds -2.92% Beta: 0.76	Cash 5.60% Beta: .00	Bond Inverse 3.99% Beta: -0.54	Managed Futures 3.70% Beta: -0.20	Bond Inverse -13.29% Beta: 0.26	Managed Futures -4.47% Beta: 0.04	S&P 500 -9.10% Beta: 1.00	Wilshire 5000 -10.97% Beta: 1.05	Sector Rotation -18.98% Beta: 0.80	Cash 1.02% Beta: .00
	Equity Leveraged -3.87% Beta: 1.50	Managed Futures -6.02% Beta: -0.19%	Bonds 3.61% Beta: 0.51%	Bond Inverse -11.76% Beta: -0.37	REIT's -17.51% Beta: 0.45	REIT's -4.62% Beta: 0.30	Wilshire 5000 -10.89% Beta: 0.94	S&P 500 -11.88% Beta: 1.00	Wilshire 5000 -20.86% Beta: 0.95	Bond Leverage -1.18% Beta: 0.01
	Hedge Funds -4.20% Beta: 0.58	Equity Inverse -21.66% Beta: -0.95	Bond Leverage -4.76% Beta: 0.66	Commodites -14.07% Beta: 0.61	Equity Inverse -20.41% Beta: -1.05	Equity Inverse -15.22% Beta: -0.98	Bond Inverse -14.68% Beta: -0.98	Equity Leveraged -22.25% Beta: 1.49	S&P 500 -22.10% Beta: 1.00	Bond Inverse -2.36% -0.01%
Worst	Bond Leverage -14.03% Beta: -.72	Bond Inverse -23.75% Beta: -0.17	Equity Inverse -13.20% Beta: -0.95	Equity Inverse -22.13% Beta: -0.97	Commodites -35.75% Beta: 0.17	Bond Leverage -18.87% Beta: 0.15	Equity Leveraged -19.63% Beta: 1.50	Commodites -31.93% Beta: 0.20	Equity Leveraged -35.36% Beta: 1.49	Equity Inverse -22.45% Beta: -0.93

Performance

Is banking your financial future on historical returns, risk, beta, and correlation really prudent?

Style Box Investing Is Difficult

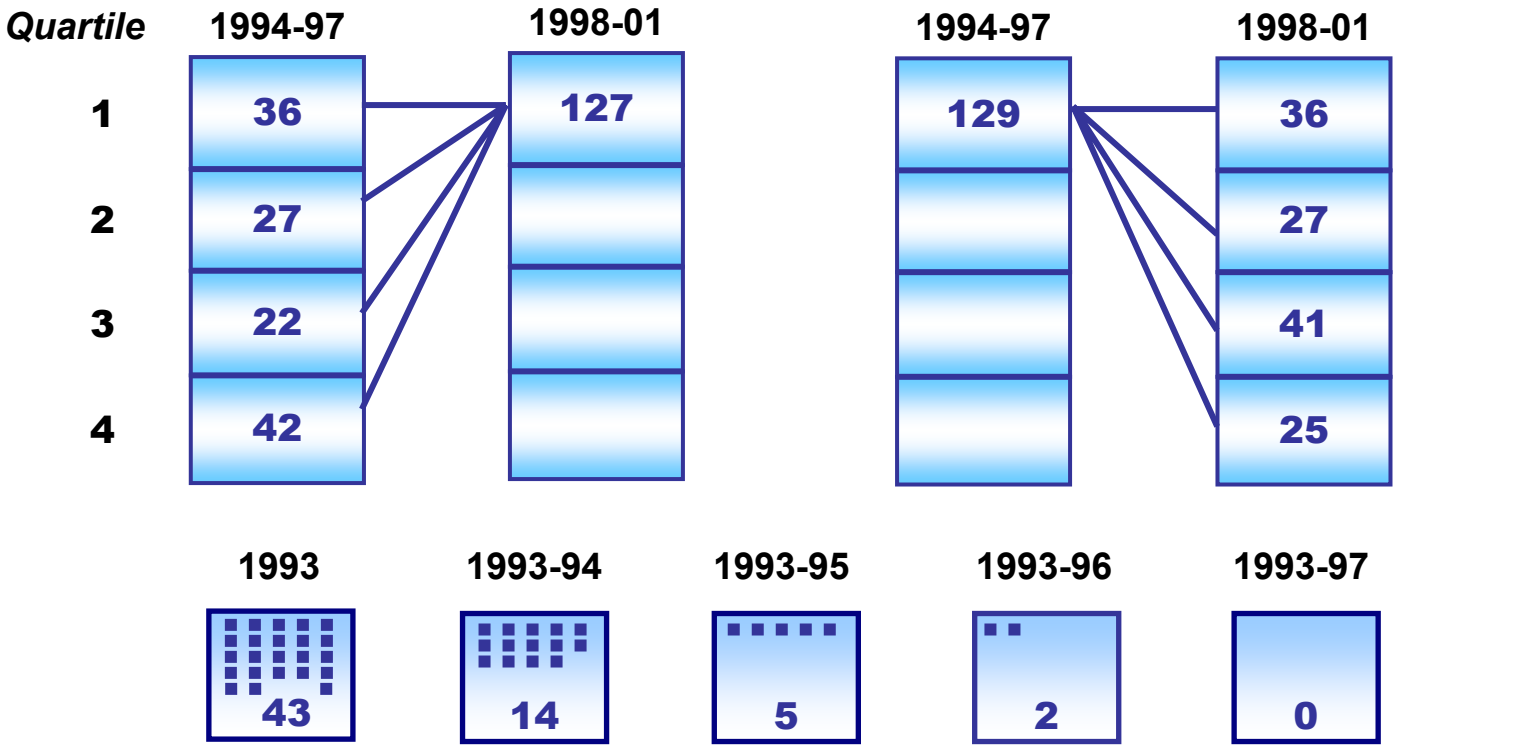
What is the Best Mix to Reduce Risk & Enhance Returns?



Style Rotation of Money Managers

Where did first quartile Managers come from?

Where did first quartile Managers go?



Source: Portfolio Analytics, Ltd.

1998 Study by Fama & French found that only 10% of a stocks performance in one 8 year period could be attributed to how it did the previous 8 years. The effect was weaker, yet still significant on shorter periods of 3 to 5 years. Thus, there is a high risk of underperforming using this method using long term data; whereas, short-term trading (monthly) actually increased the probability of success.

The Efficient Frontier & Historical Data

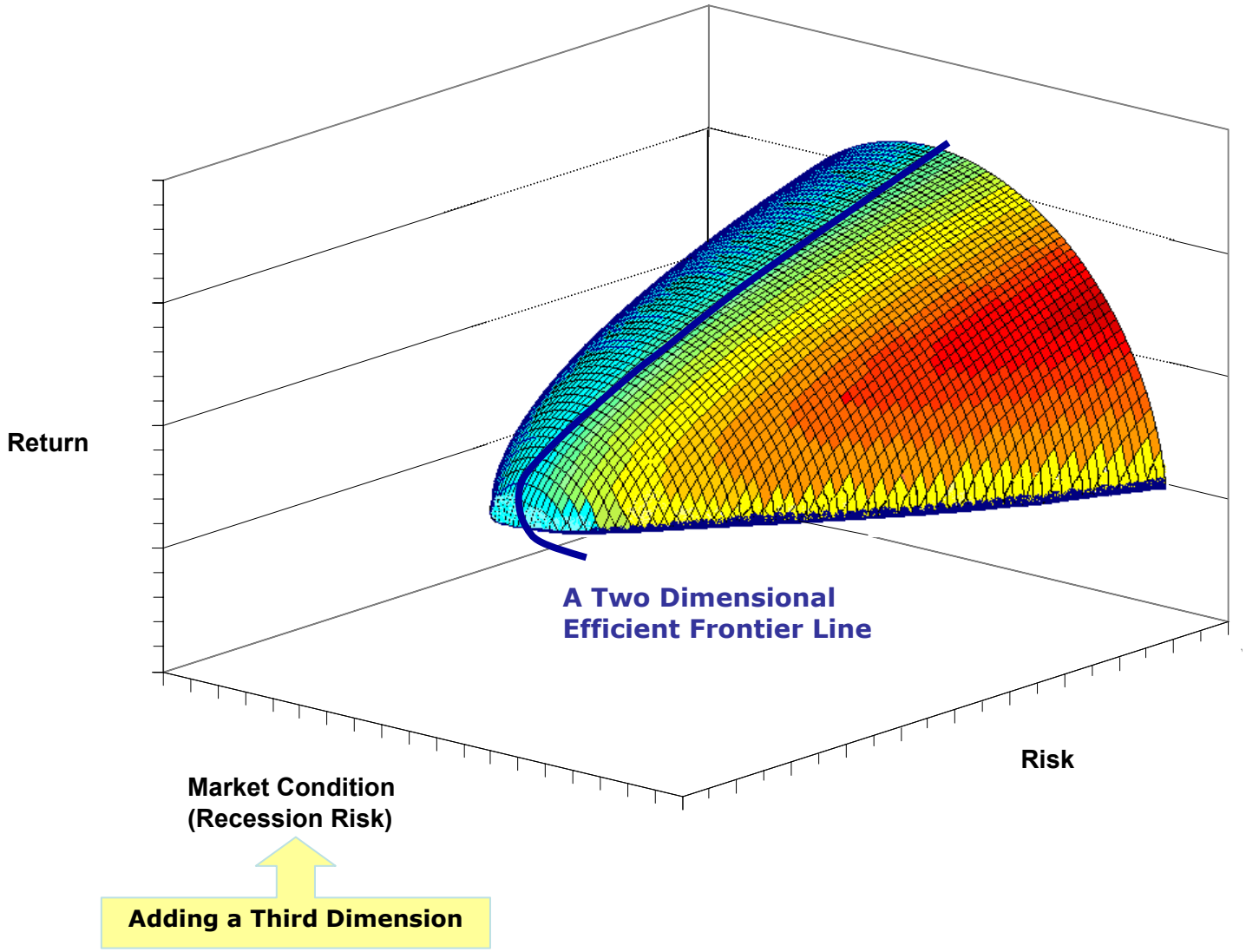
Most Investment Models Rely on Historical Trends

Changes in Long -Term Cycles Heavily Impacts Performance (Recession Risk)

Using Historical Earnings falsifies Estimated Earnings: A 2004 optimization using MVO estimated equity returns of 11% versus actual estimated returns on the U.S. market of 6%

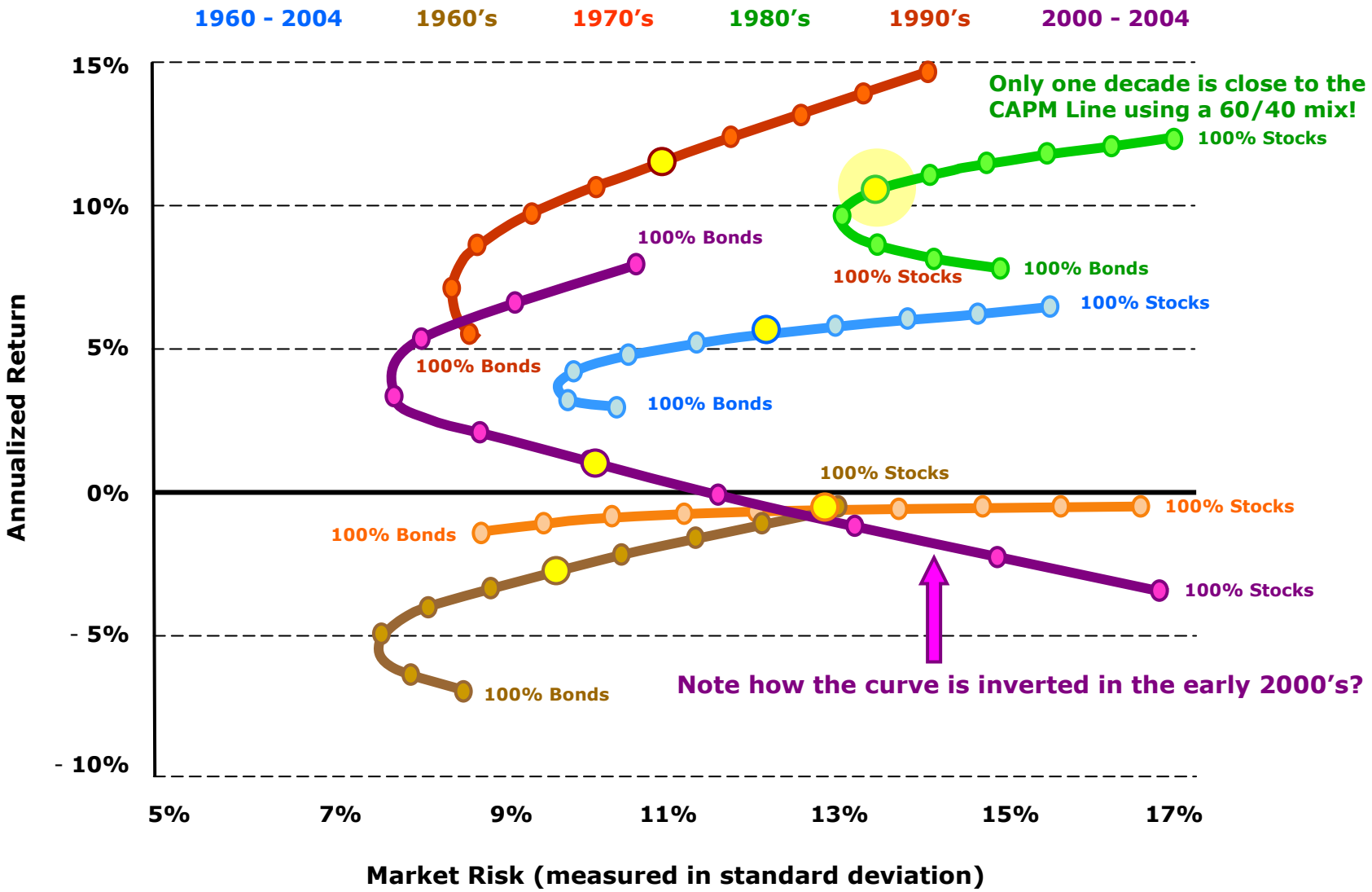
The Efficient Frontier

Is the Efficient Frontier really Two Dimensional?



The Efficient Frontier

By Decade



Importance of Data

Garbage In – Garbage Out

In 1992, Ron Ryan Challenged the Accuracy of Ibbotson Data

Ryan Labs, Pension & Investments, December 7, 1992

"Today, however, only a very naïve investor would use our 20-year constant maturity series as a benchmark for evaluating a diversified bond portfolio."

"Mr. Ryan makes a valid point in suggesting an asset allocator could be fooled by the Ibbotson data into underweighting in bonds. This is a danger only if the asset allocator literally believes the disappointing historical return on long-term bonds will be repeated. Again, this is a naïve view."

Laurence B. Siegel & Scott L. Lummer
Ibbotson & Associates, Pension & Investments, January 11, 1993

Part 3

Upgrading Modern Portfolio Theory

Eugene Fama, the most outspoken academic advocate for the efficient market hypothesis, in his paper, "Capital Markets II," rejected the random walk model and promoted the idea that expected returns vary with time.

~ William Jahnke, June 2004

Journal of Financial Planning

Are we Ready for an Upgrade?

The Capital Asset Pricing Theory is ready for a makeover -

“Tail risk" is ignored by Mean-Variance Analysis -

Mean-Variance Analysis is wrong to assumes that all investors have the same beliefs about the market and the relationship among different assets -

Mean-Variance Analysis ignores taxes, transaction costs and illiquidity -

The (new) approach doesn't rely on a normal distribution -

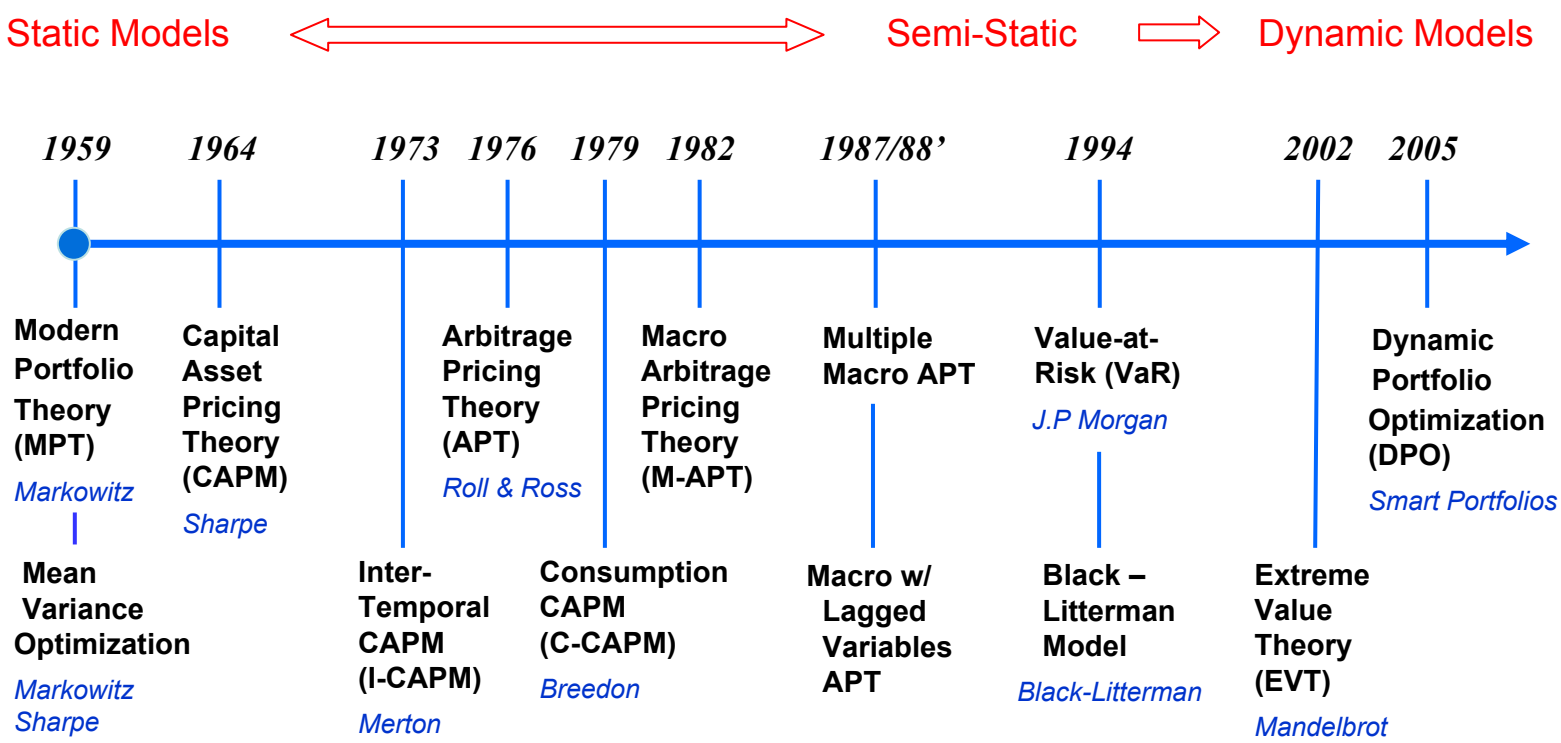
~ William Sharpe, 2006

Nobel Memorial Prize in Economics in 1990
Creator of the Capital Asset Pricing Model
Co-creator of Modern Portfolio Theory

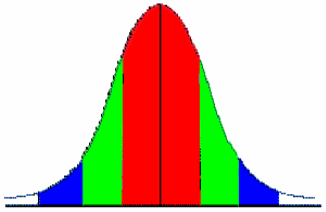
Source: Joel Chernoff, Investment News, 11-9-2006
“Sharpe rethinks the capital asset pricing model”

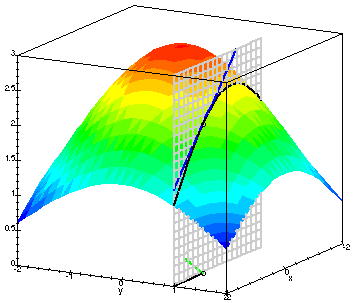
Evolution of Portfolio Optimization Solutions

Timeline of Optimization Models



Investing: Then vs. Now



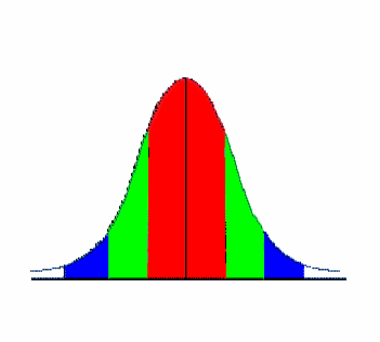


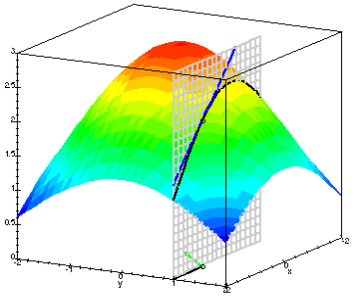
Asset Allocation	**1959**	**2002 - Today**
Theory:	**Modern Portfolio Theory**	**Extreme Value Theory**
Methodology:	Mean Variance Optimization	Dynamic Portfolio Optimization
Risk:	Standard Deviation	Expected Shortfall w/ Student -*t*
Return:	Mean Variance	Monte Carlo Modeling w/ GARCH
Diversification:	Linear Correlation	Copula-based Dependence
Data Distribution:	Normal Distribution	Heavy-Tailed Student-*t* Distribution
Model Features:	Static	Dynamic: Generalized Auto-Regressive Conditional Heteroscedasticity (GARCH)

Formula 1 Racing: Then vs. Now

Specs:	**Ferrari 1959 - 256 F1**	**Ferrari 2006 - F2006**
Type:	Type 155/59 V6	Ferrari Type 053, V10, cylinder block aluminum
Cylinders:	2474 cm3	2,997 cm3
Injection system:	Dual Carburetors	Magneti Marelli digital electronic injection
Timing Gear:	DOHC 2 Valves per Cylinder	Pneumatic distribution, 40 valves
Chassis:	Aluminum	Carbon-fiber and honeycomb composite
Transmission:	528/B 5-Speed Manual	Ferrari longitudinal gearbox. Limited-slip differential. Semiautomatic sequential electronically controlled gearbox, 7 gears + rev.
Suspension:	Double Wishbones (front) Axle (rear) w/Coil Spring & Co-Axial Telescopic Dampers	Independent suspension, push-rod activated torsion springs front and rear
Brakes:	Front Disc, Rear Drums	Ventilated carbon-fiber ABS disc brakes
Wheels:	16”	13"

Investing: Then vs. Now





Old Asset Allocation Technology (MPT)

MPT (from 1959) falsely assumes:

1) Markets are static and don't change

2) Securities follow Normal Distributions

3) Past performance predicts future results

New Asset Allocation Technology (EVT)

EVT correctly assumes:

1) Markets are dynamic, constantly changing

2) Securities follow Stable Distributions

3) Market activity predicts future results

The 'Smart' method capitalizes on advanced mathematics, higher computer power, and state-of-the-art portfolio modeling to increase returns and reduce risk.

The Evolution from Static to Dynamic Optimization

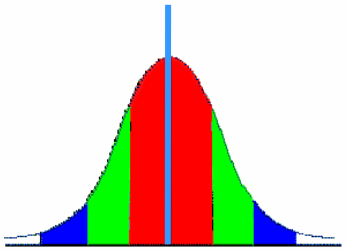
1. Calculate Risk & Return

2. Diversify Assets

3. Optimize Portfolio

Static Optimization Process

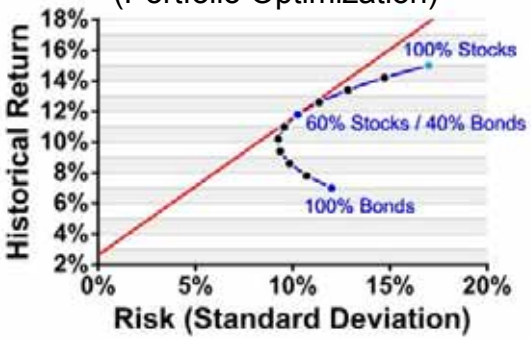
Normal Distribution
(Risk & Return)



Correlation Matrix
(Diversification)

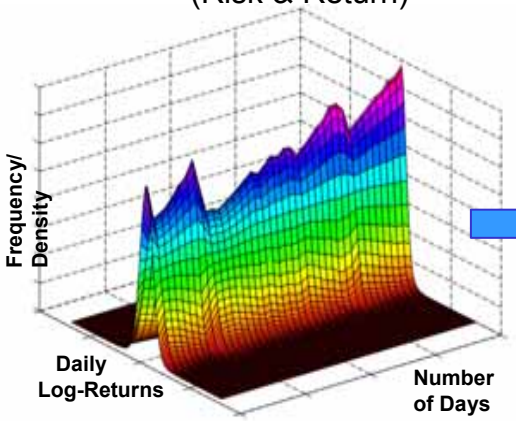
	A	B	C	D
A	1.0	.23	.78	-.41
B		1.0	.36	.19
C			1.0	-.28
D				1.0

Efficient Frontier
(Portfolio Optimization)

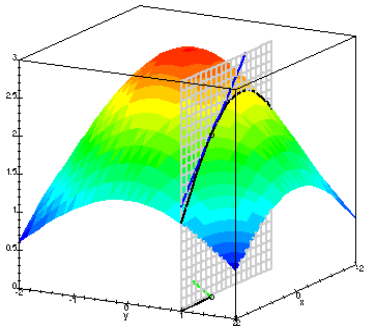


Dynamic Optimization Process

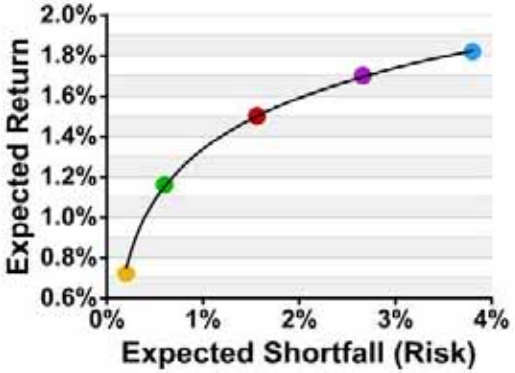
Stable-t Distribution
(Risk & Return)



Dependency Model
(Diversification & Forecasting)



Expected Loss/Gain
(Portfolio Optimization)



What is Risk?

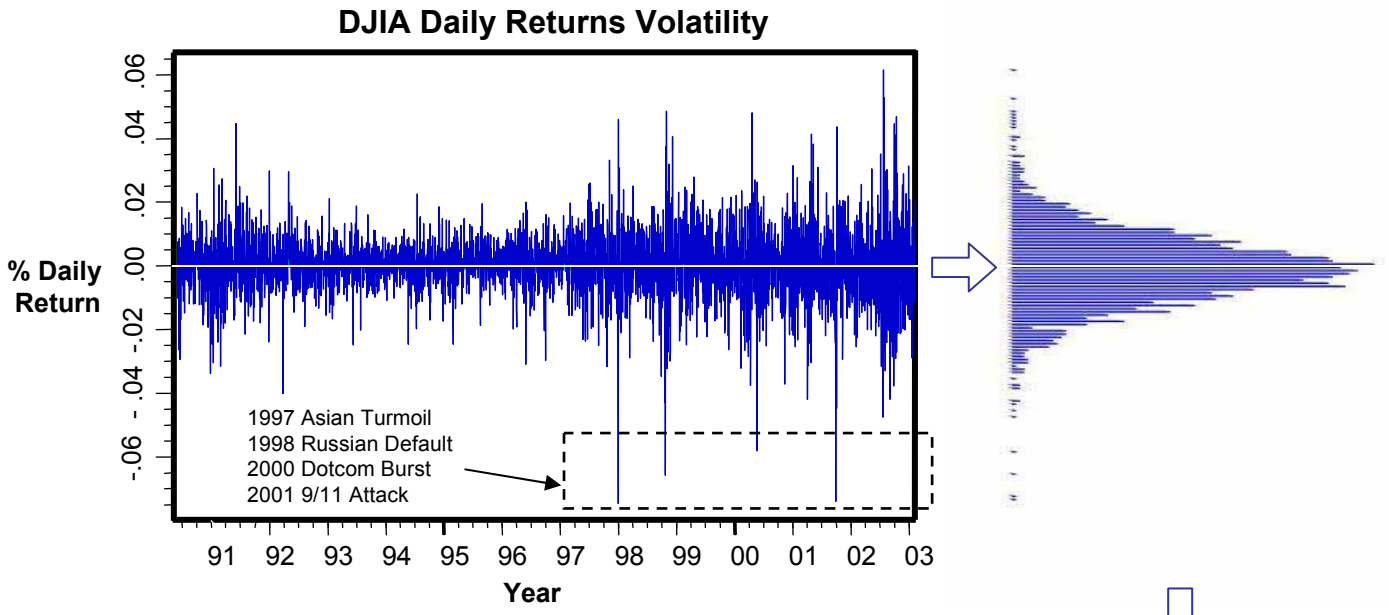
Risk is the odds of losing money!

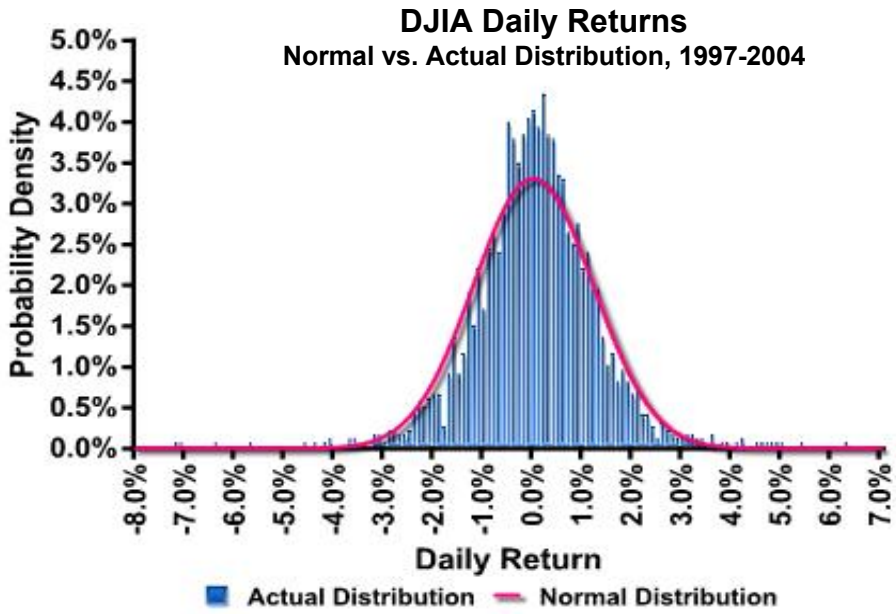
How can you Measure Investment Risk?

Standard Deviation
Semi-Variance
Value at Risk (VaR)
Expected Shortfall (ES)

Measuring Investment Risk

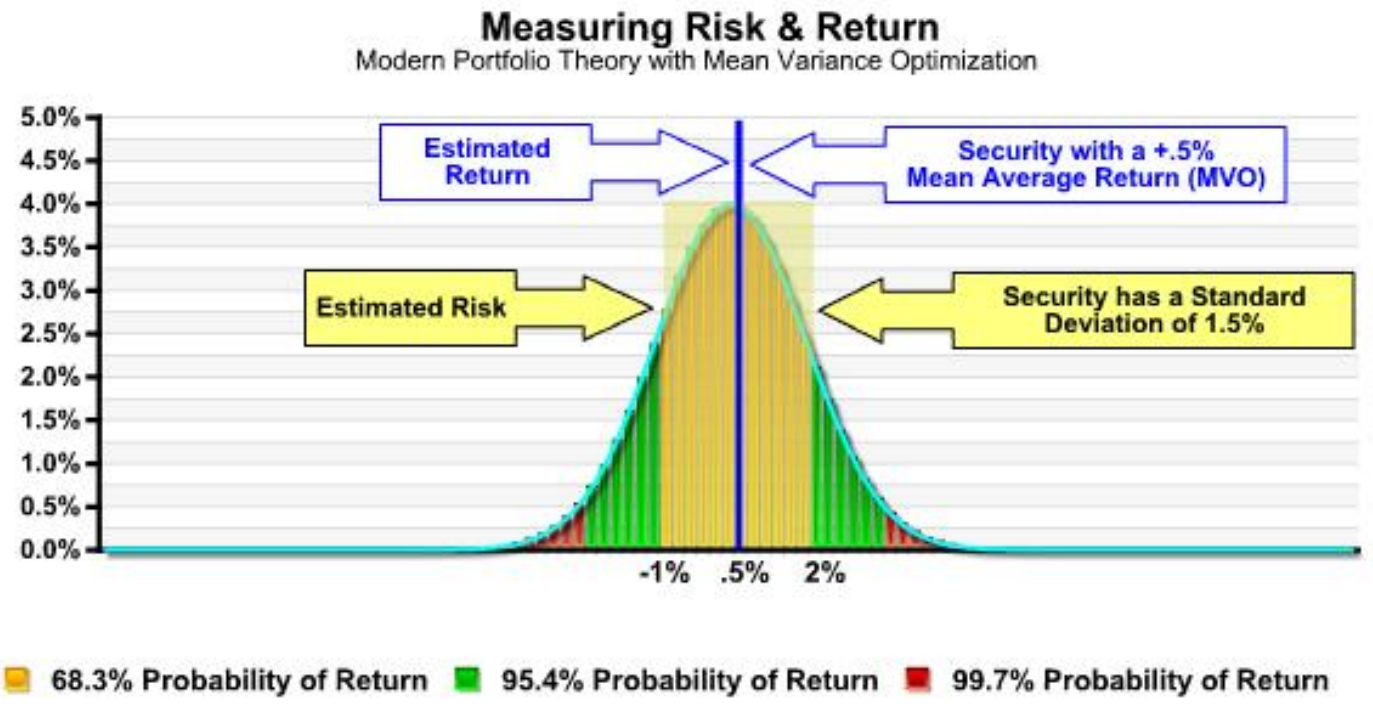
Creating a Frequency Distribution



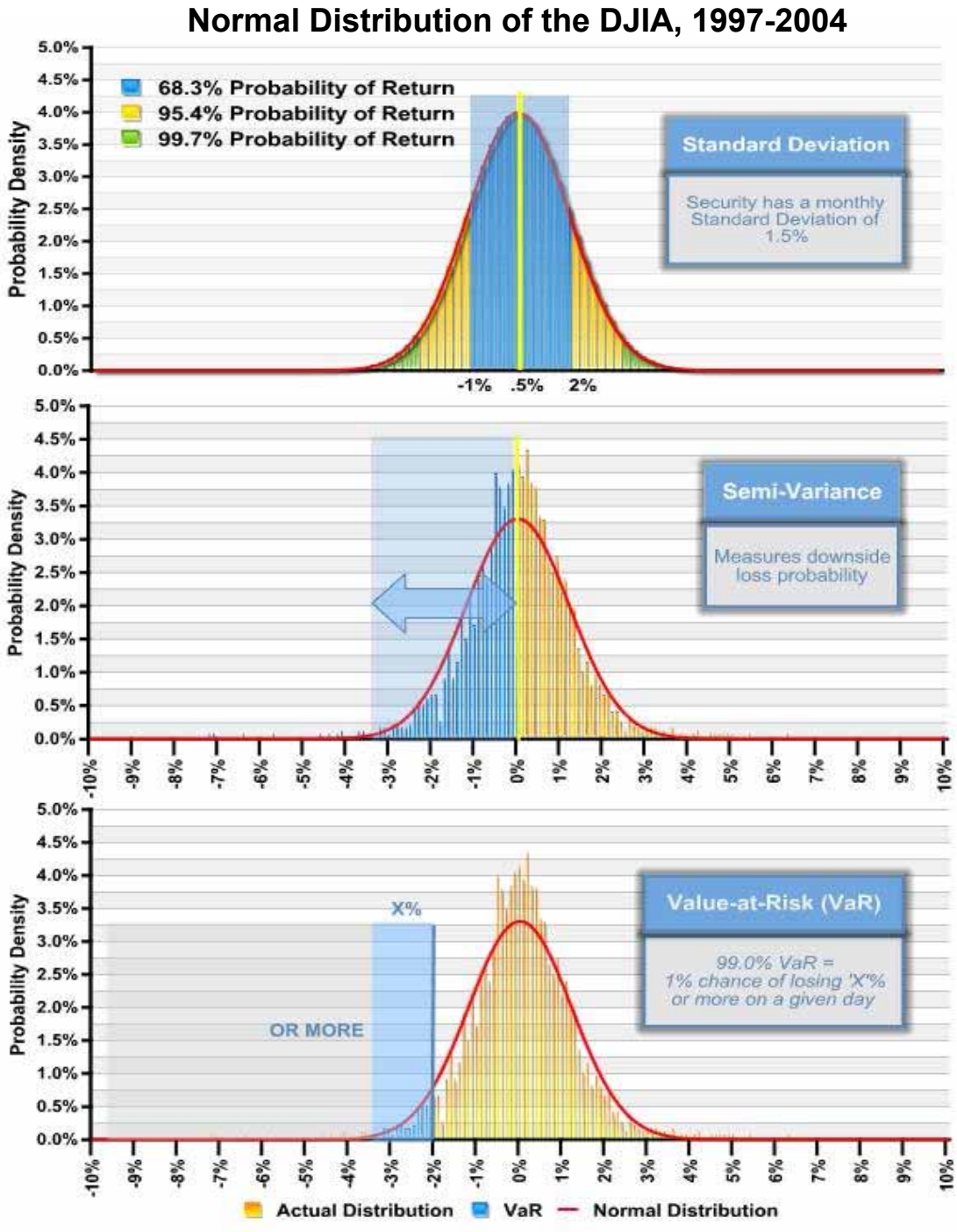


Frequency Distribution with a Normal Distribution

Wall Street's Measure of Risk & Return



3 Ways to Calculate Risk & Return



1952

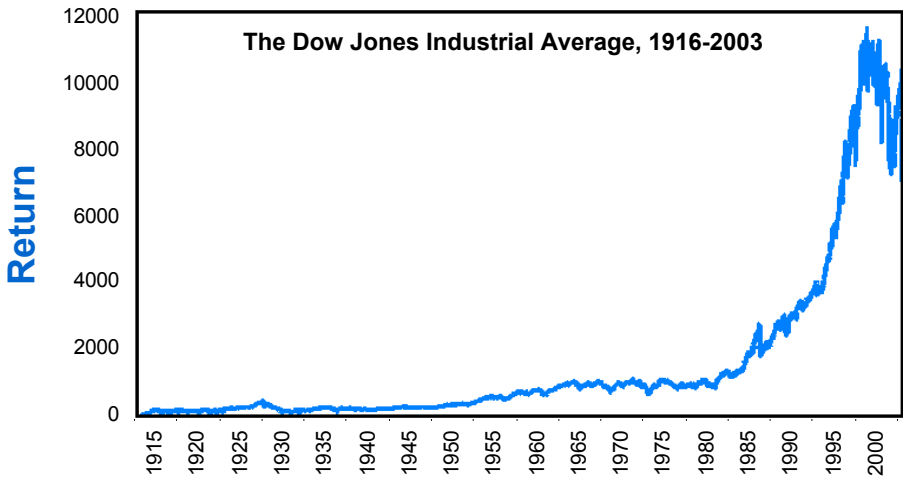
1970's

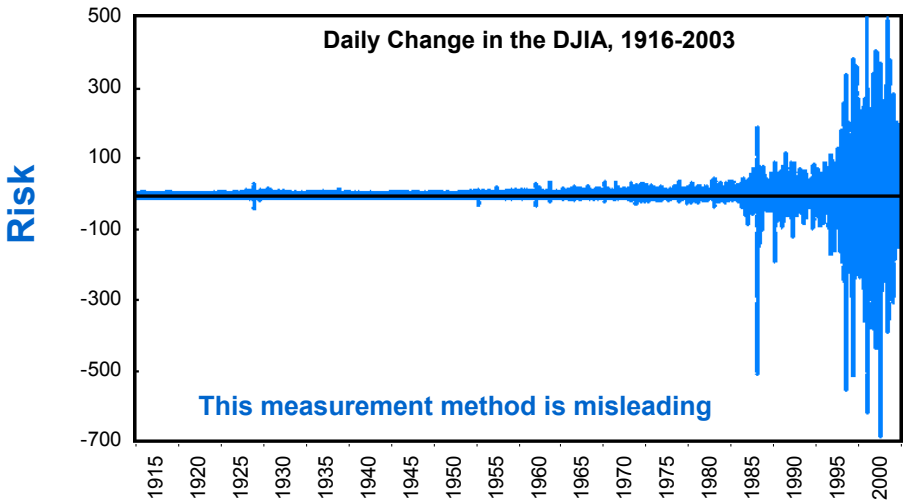
1993

Variations in Data Distributions

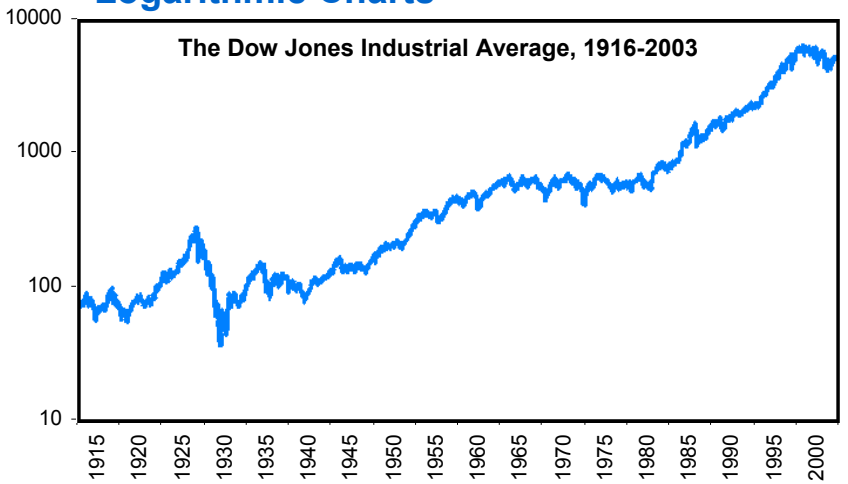
There are Many Ways to Calculate the Distribution of Data (Linear, Brownian, etc.)

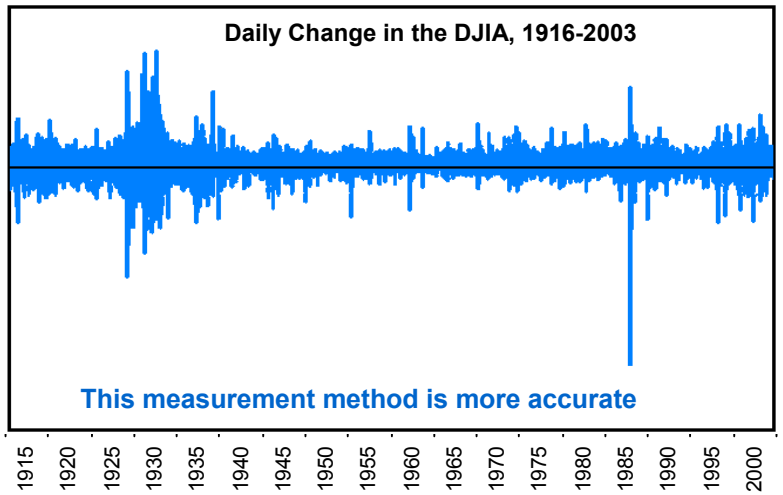
Arithmetic Charts





Logarithmic Charts





* The Misbehavior of Markets, Mandelbrot

Outliers are the Reality of Risk

Rather than being a risk-taker as such, I consider myself and my climbing peers to be risk-controllers, and we just enjoy being in this situation and keeping risk at a reasonable level.

- Alex Lowe

Arguably the best climber ever
(Died in an avalanche in Tibet, October 5, 1992)

Much of the real world is controlled as much by the “tails” of distributions as by means or averages: by the exceptional, not the mean; by the catastrophe, not the steady drip; by the very rich, not the “middle class.” We need to free ourselves from “average” thinking.

- Philip Anderson

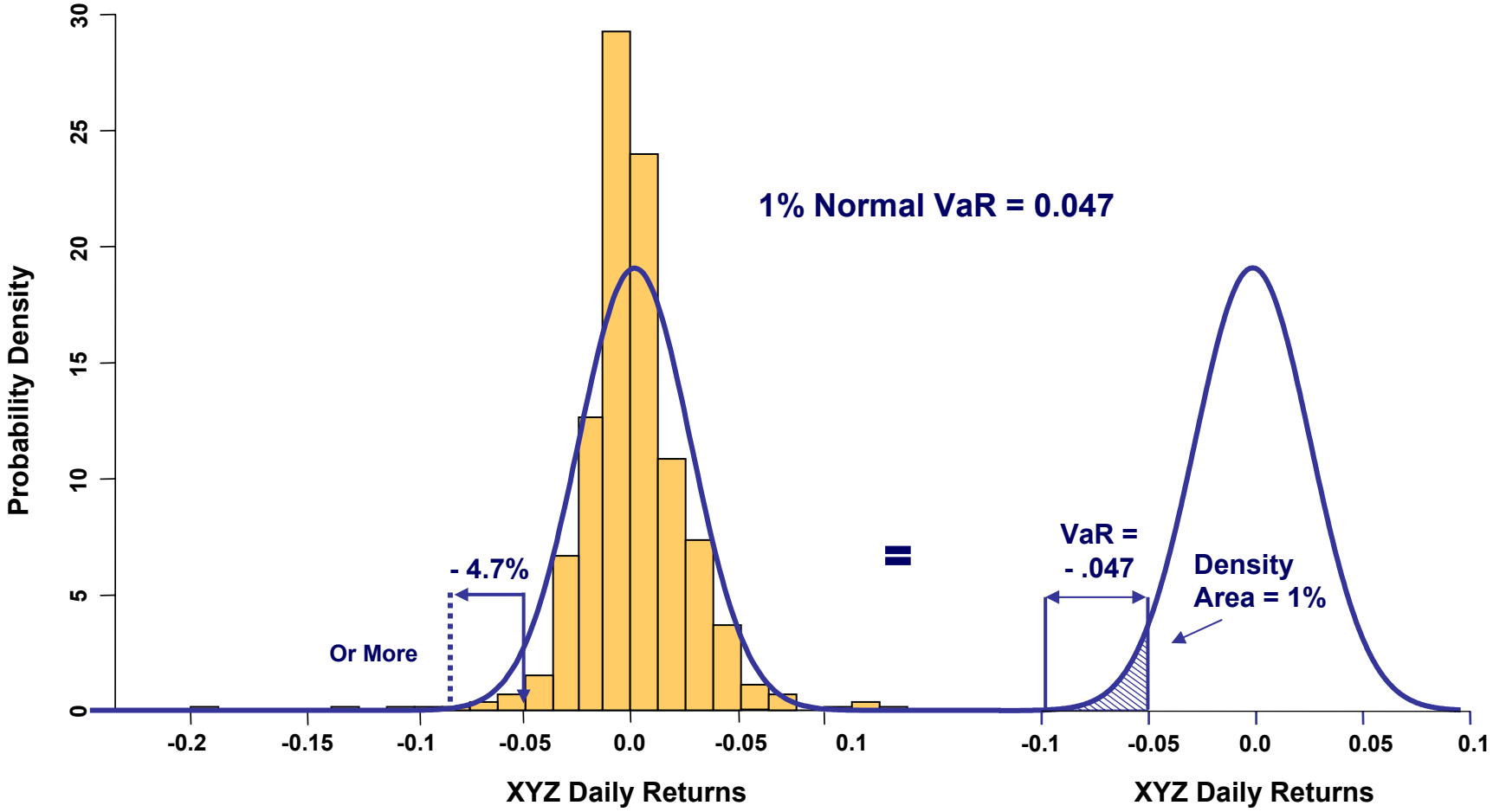
Nobel-prize-winning physicist

Life is nothing but Fat-tails

- Eugene Fama

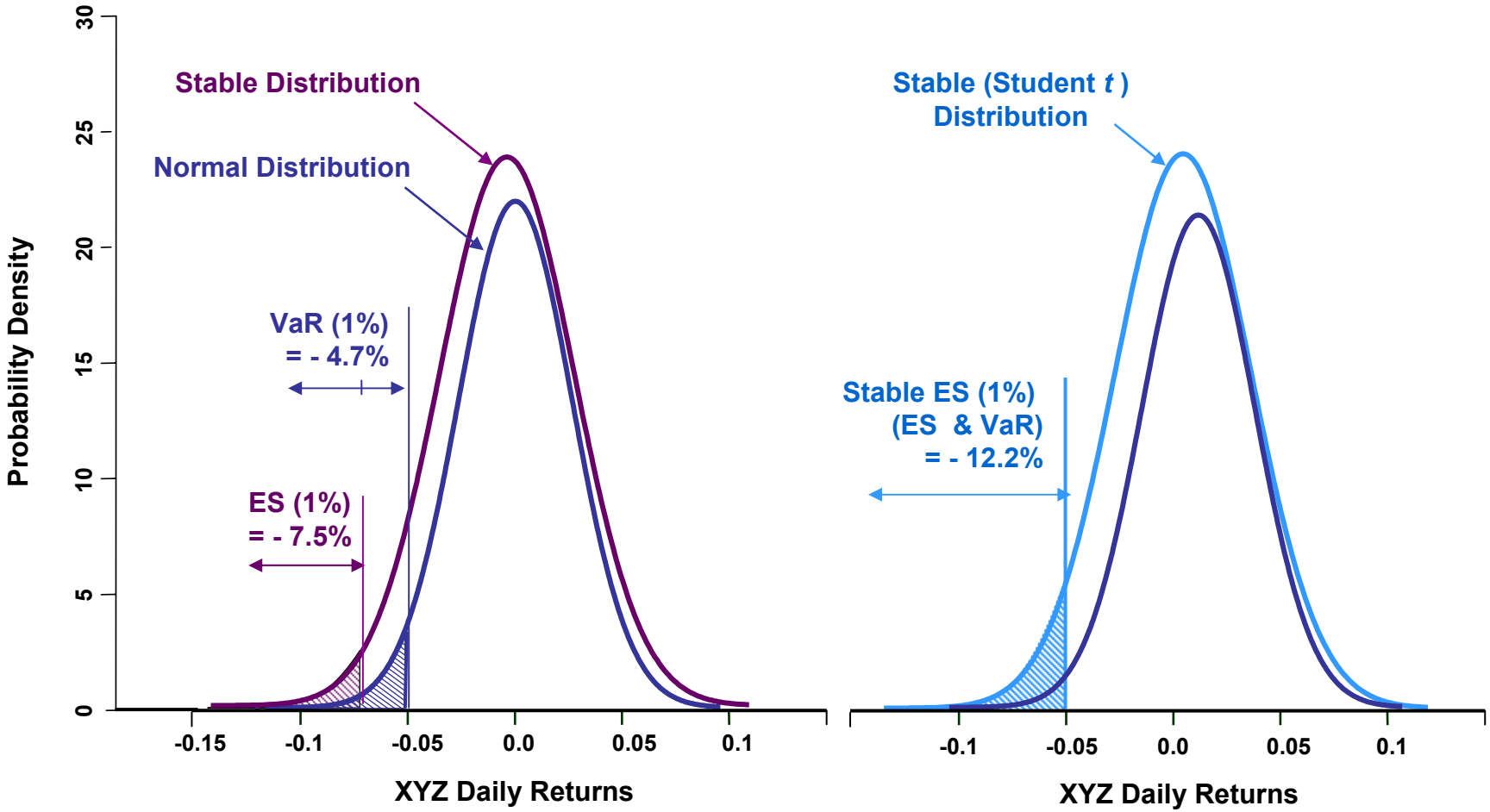
Value-at-Risk (VaR) with a Normal Distribution

Risk Managers Replacement for Standard Deviation



Expected Shortfall (ES) with a Stable-*t* Distribution

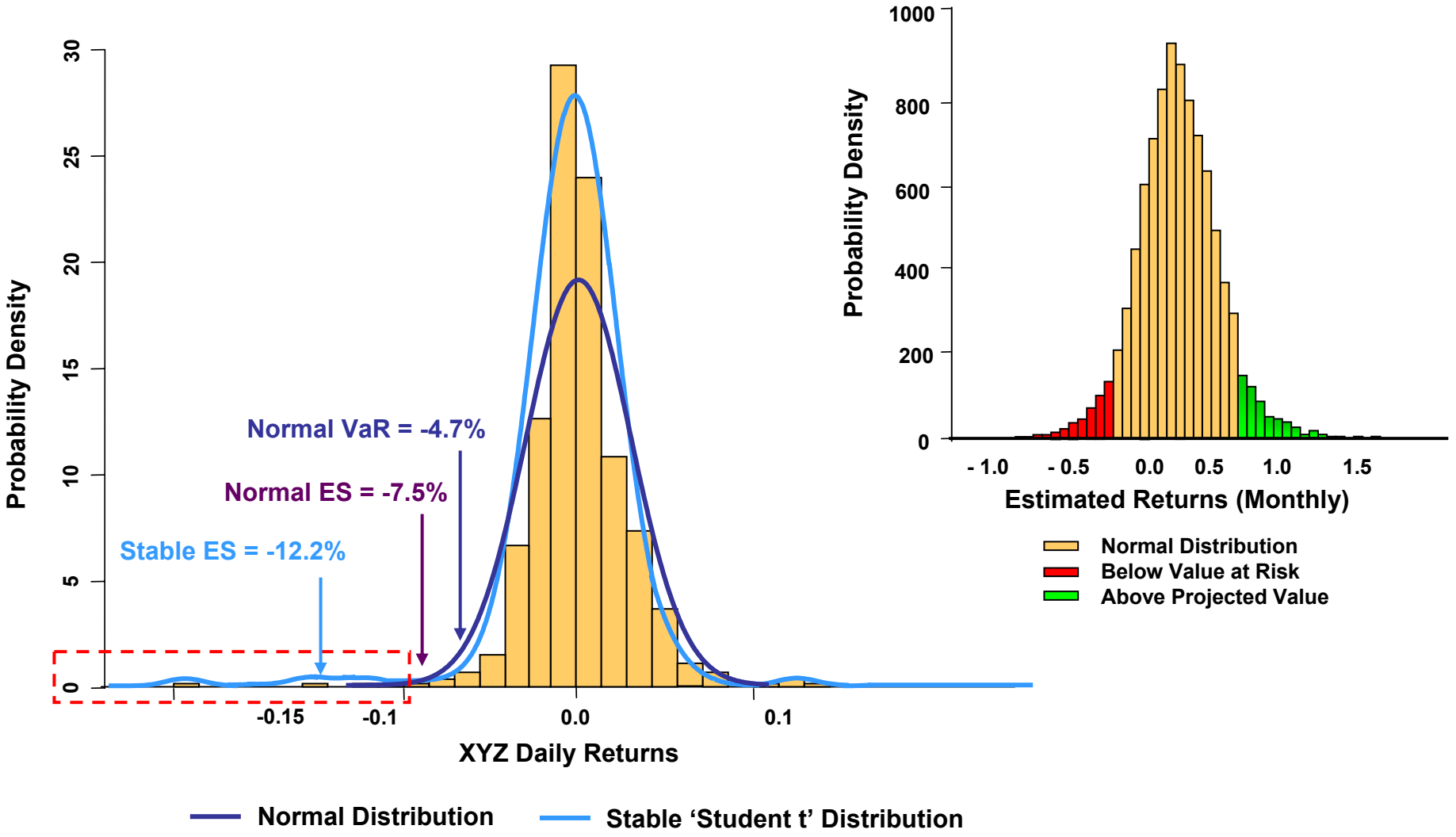
Expected Shortfall is the average value of returns that fall below VaR



t = Student t Distribution

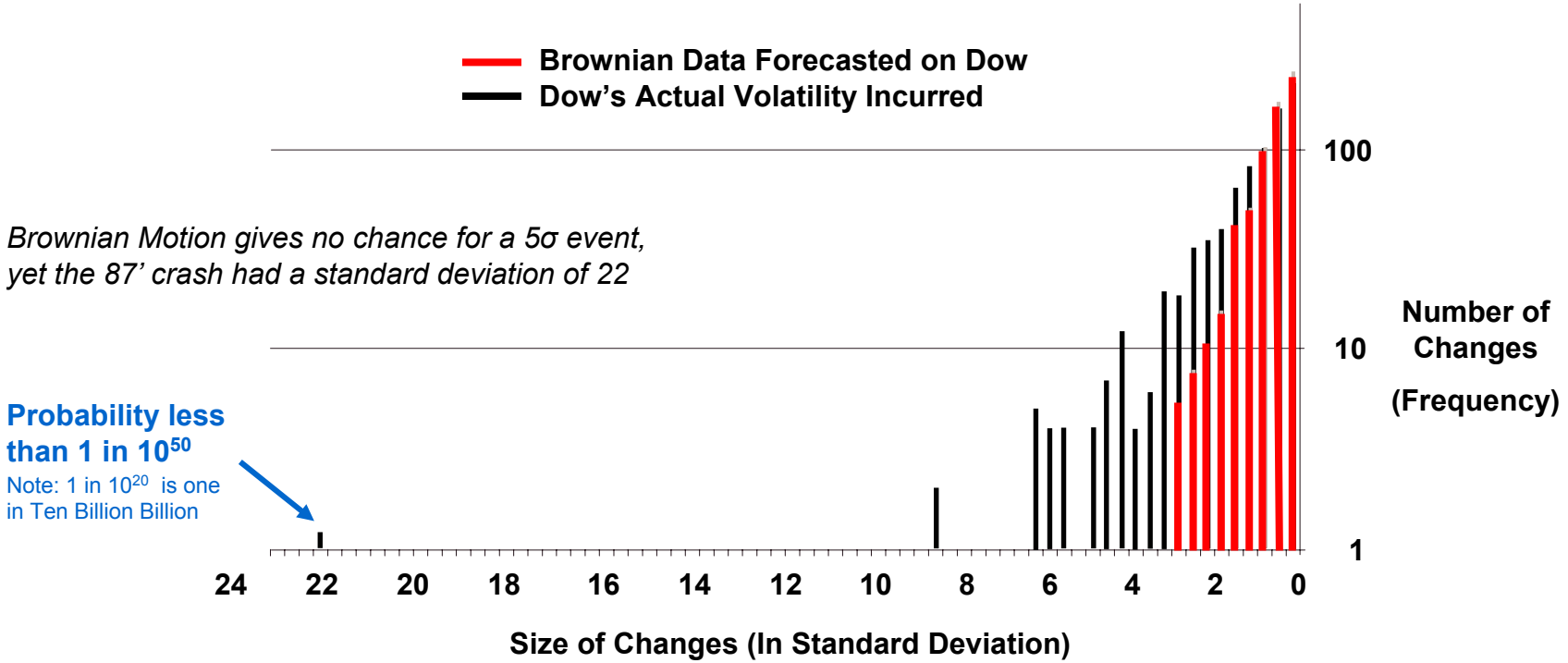
Comparing Risk Metrics

99% Stable ES versus Normal VaR and Normal ES



Brownian Motion Miscalculates Risk

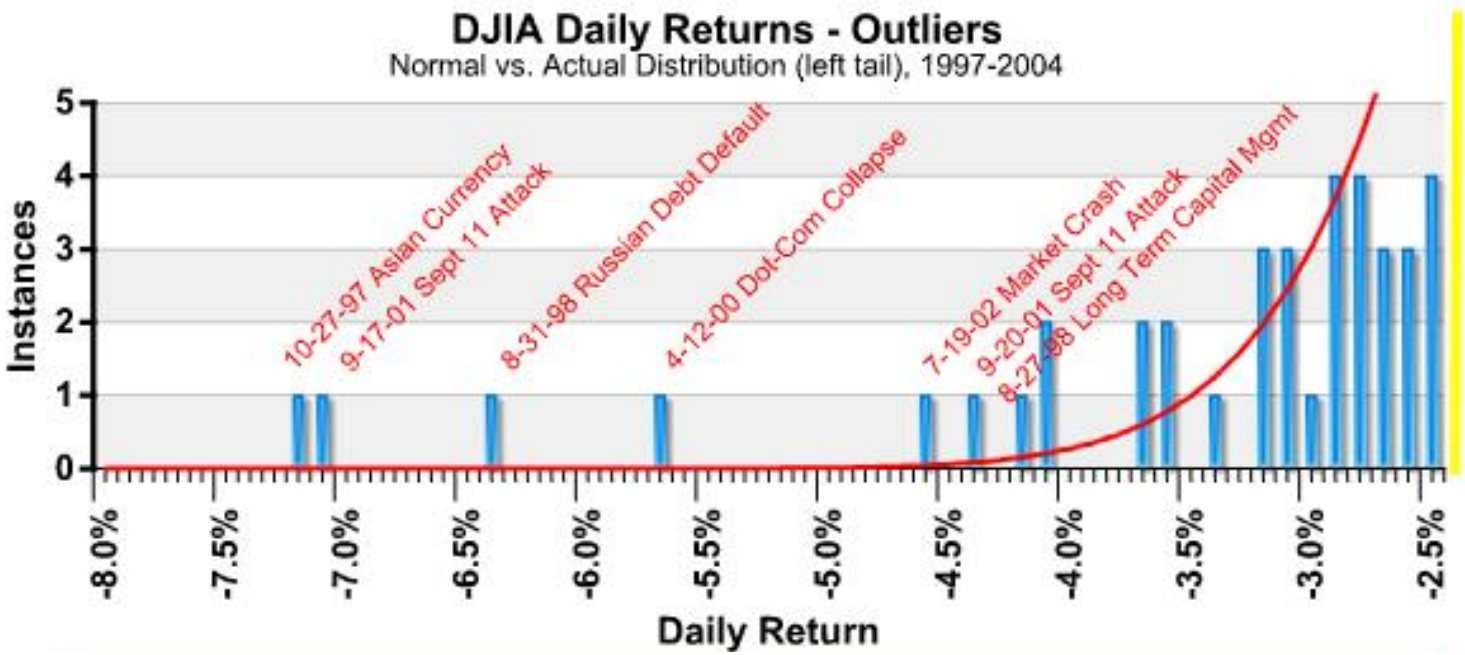
Comparing the Dow and the Efficient Theory Model



Large changes of more than 5 std. dev. From average occur 2000 times more often than expected.
1 in every 3-4 years vs. 1 every 7000 years.

* The Misbehavior of Markets, Mandelbrot

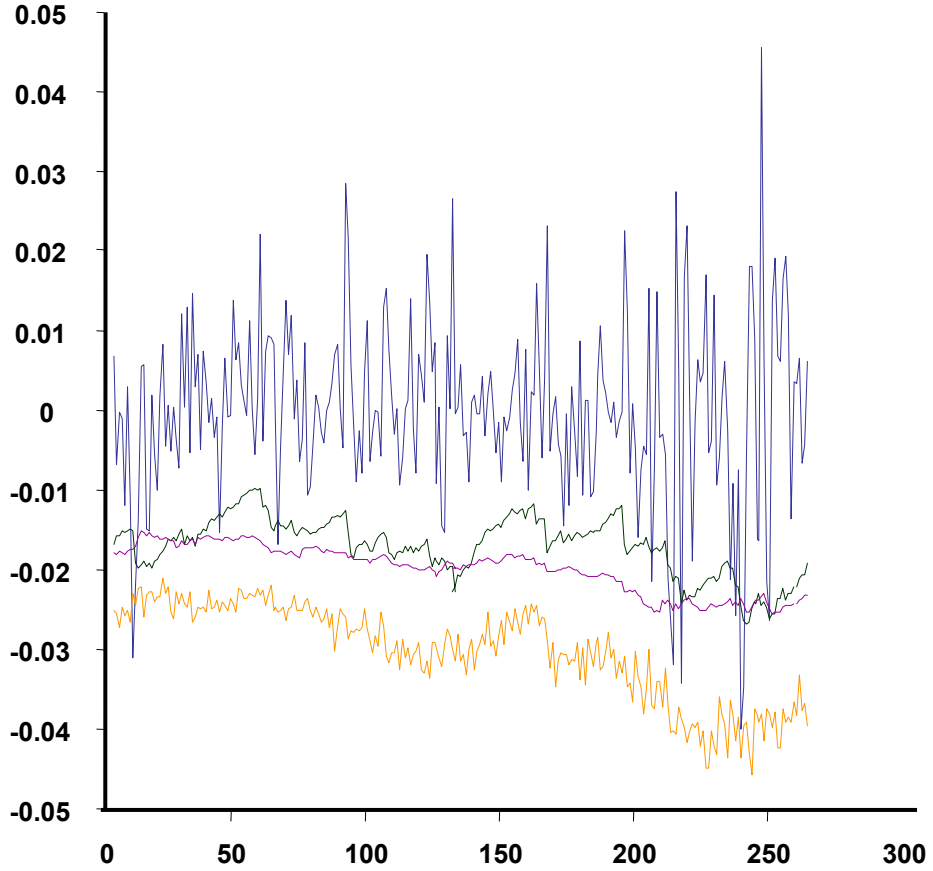
Normal Distributions Poorly Estimate Risk



Date	Dow	Loss Probability
10-27-1997	- 7.18%	1 in 50 Billion
8-27-1998	- 4.1%	1 in 20 Million, or 1 in 100,000 years of daily trading
8-31-1998	- 6.4%	3 outliers in 1 month = 1 in 500 Billion years
July 2002		3 steep falls in 7 days of trading, odds: 1 in 4 Trillion

Managing Portfolio Risk

1% Normal VaR (Green Line) vs. Historical VaR (Plum Line) vs. Stable ES (Gold Line)
over a period of 260 Trading Days



Violations:

12 Exceedances for Normal VaR
9 Exceedances for Historical VaR
1 Exceedance for ES

Observed Portfolio Returns
Normal 99% VaR
Historical 99% VaR
Stable 99% ES

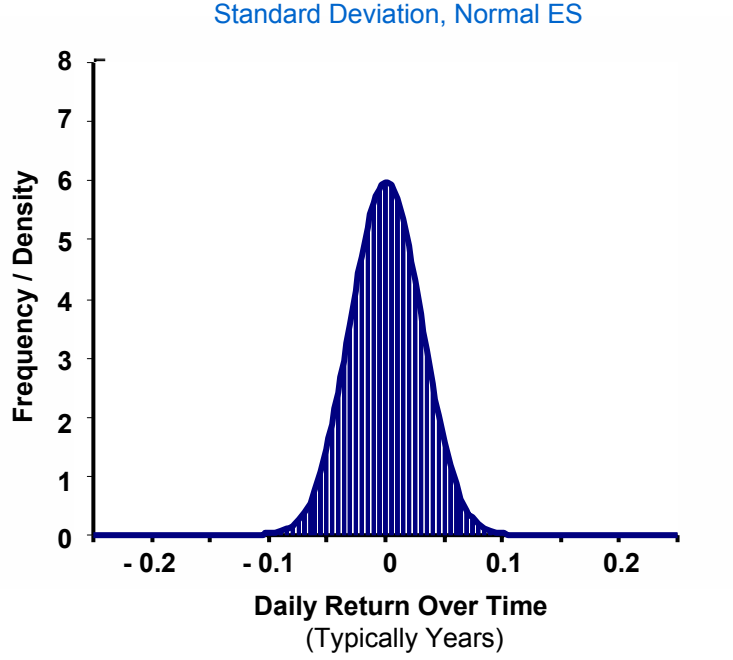
Forecasting Risk & Return

Static vs. Dynamic Risk Models

Static Historical Distribution

(Daily Arithmetic Returns)

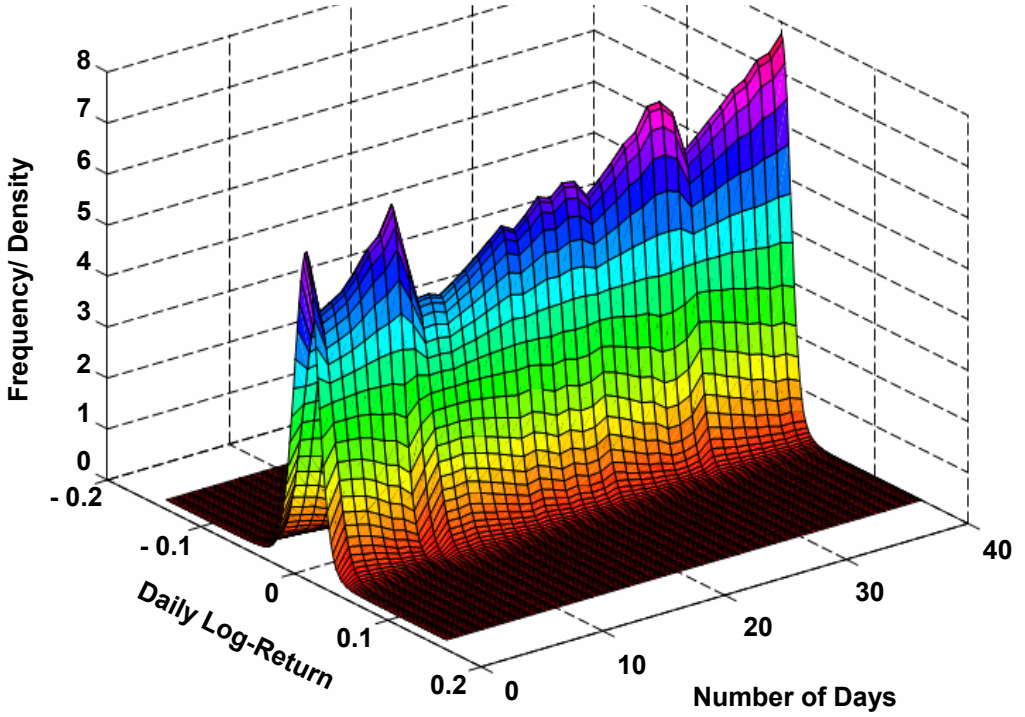
Examples: VaR, Semi-Variance, Standard Deviation, Normal ES



Dynamic Empirical Distribution

(Daily Log-Returns)

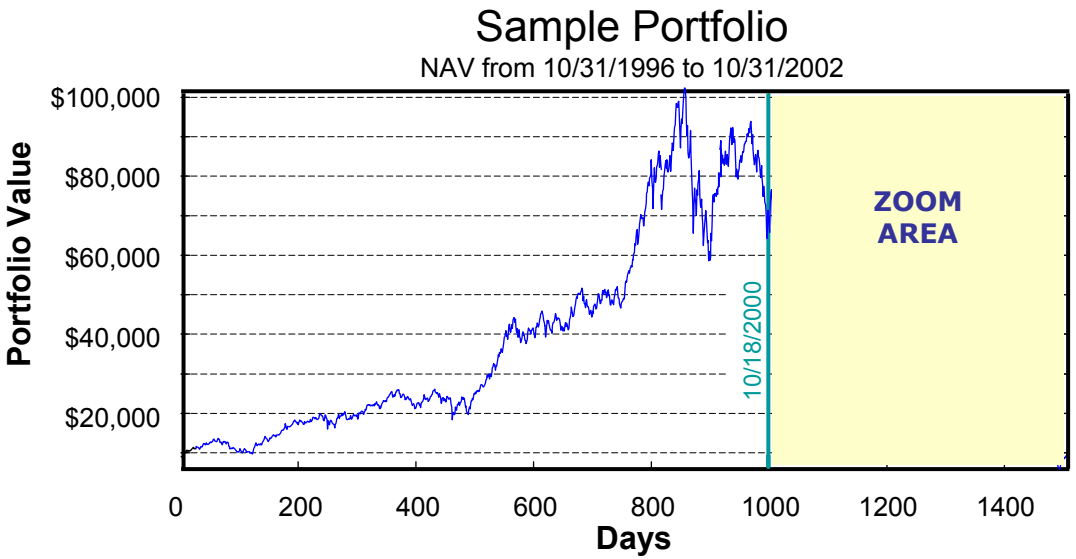
Example: Stable ES



Static is comparable to the 'Farmers' Almanac Forecast'

Dynamic is comparable to a 'Doppler Radar' Forecast

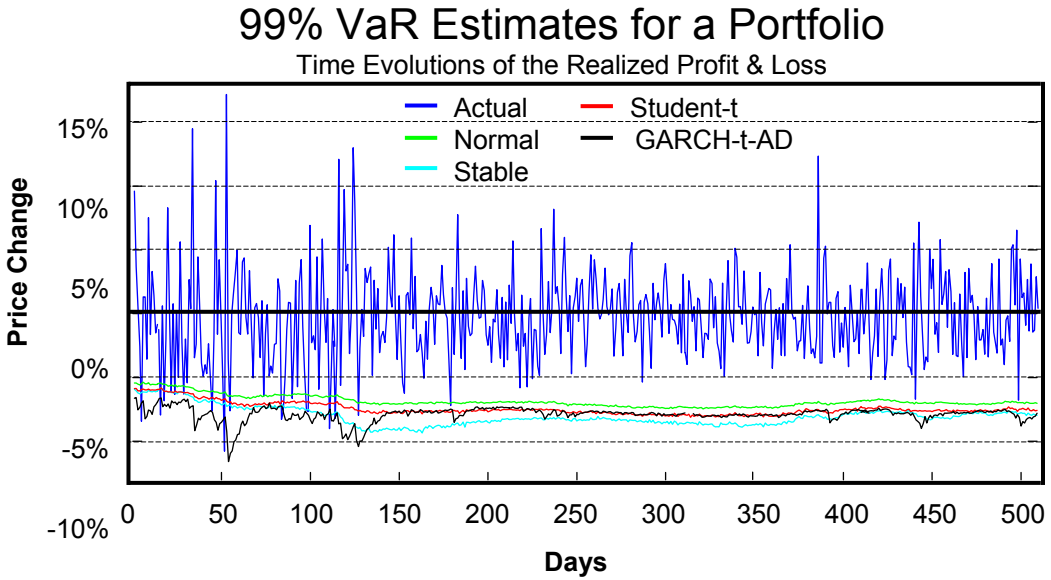
Measuring Portfolio Downside Risk



Sample Portfolio Value

NAV on 10/18/00	$75,760,718
NAV on 10/31/02	$19,770,392
Minimum Value	$15,882,960
Maximum Value	$86,560,739
Standard Deviation	$1,593,360

Start of Back-Testing Period



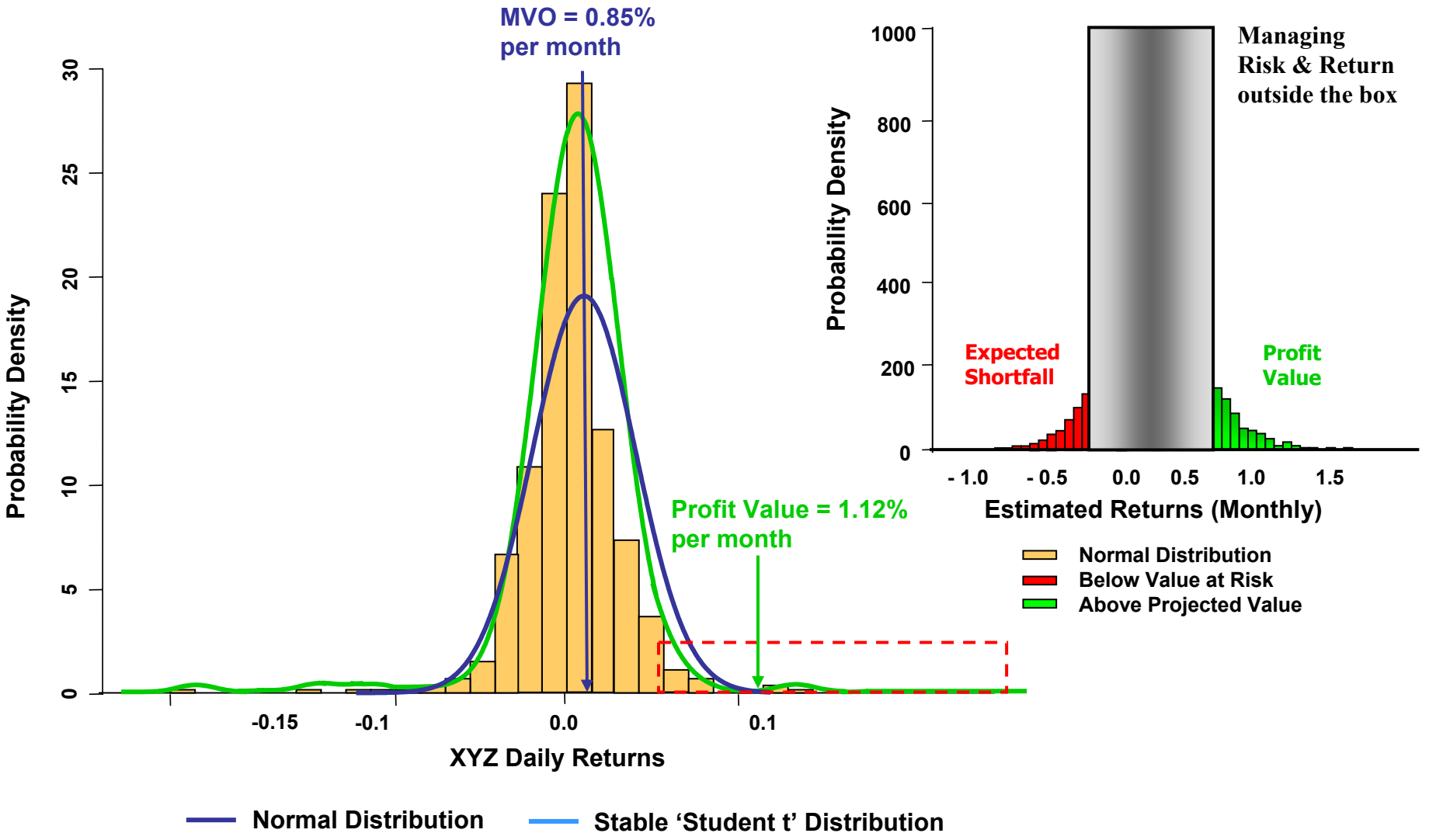
Sample Portfolio

Model	99%-VaR	99.5%-VaR
Normal	17	13
Historical	16	10
Student-t	13	4
Stable	10	3
GARCH-t-MLE	6	2
GARCH-t-AD	5	1
Kupiec Test	2-10	1-6
Basle Test	0-9a	

Results based on 500 days of back-testing

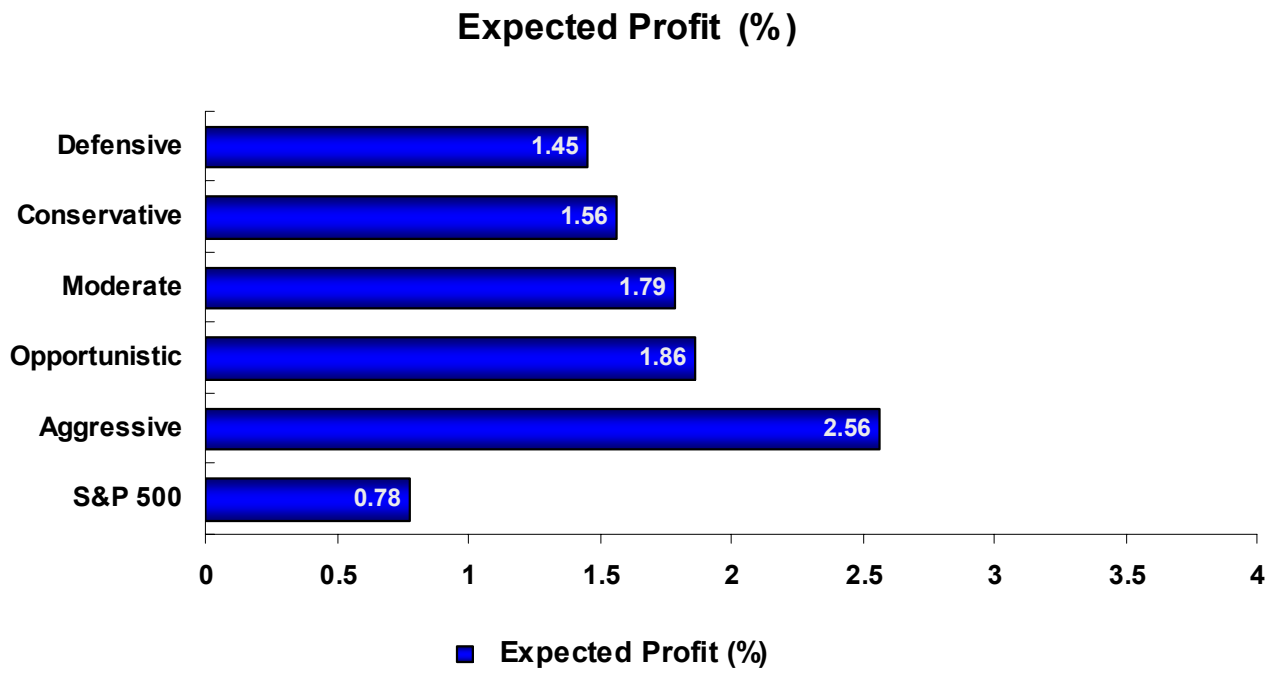
Comparing Return Metrics

99% Stable Profit Value versus MVO



Return Measured with Profit Value

99% Stable ES

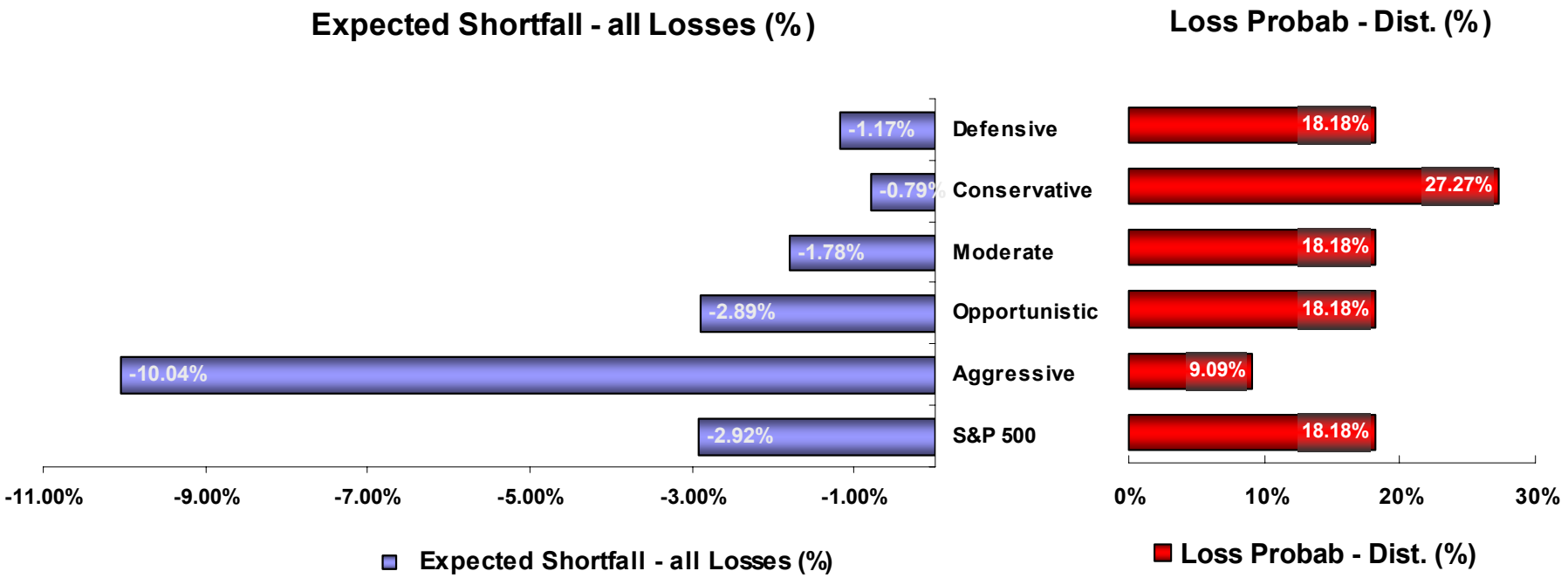


Profit-Value (PVα) is defined as a negative number that measures the portfolio's profit that would be exceeded with probability (1.0 − *α*) in future market realizations over a given time horizon. This number is expressed in dollar terms. This ratio is the polarization of VaR (because it is the opposite side of the distribution) and therefore maintains the same drawbacks as VaR. Similarly, a new metric called **Expected Profit** (EPα) is needed to capture the potential gain missed in ***Gaussian*** models; the opposite of Expected Shortfall. Expected Profit measures the expected profit of the portfolio beyond the specified PVα level .

Value-at-Risk and Expected Shortfall can be set at different risk levels, such as: α = 0.95, 0.99, 0.995. The values are obtained from the different simulations.

Risk Measured with Expected Shortfall

99% Stable ES



Value-at-Risk (VaR) describes risk more accurately than Standard Deviation and Semi-Variance by means of estimating the minimum loss at a specific probability level. This is more intuitive than Variance or Standard Deviation (α) because the risk is expressed in dollar terms. The main drawback of VaR has been that it only describes a minimum amount of loss and therefore does not specify how big the expected loss could be. To measure how big the loss could be it is necessary to switch from a ***Normal (Gaussian) Distribution*** to a ***Stable 'Student-t' Distribution***; this also improves the accuracy of the expected loss. Under this methodology you can measure beyond VaR using Expected Shortfall (ES). **Expected Shortfall** (ES) is the average value of total losses beyond a define probability level. It not only measures the minimum loss, but the amount of expected loss beyond VaR.

Part 4

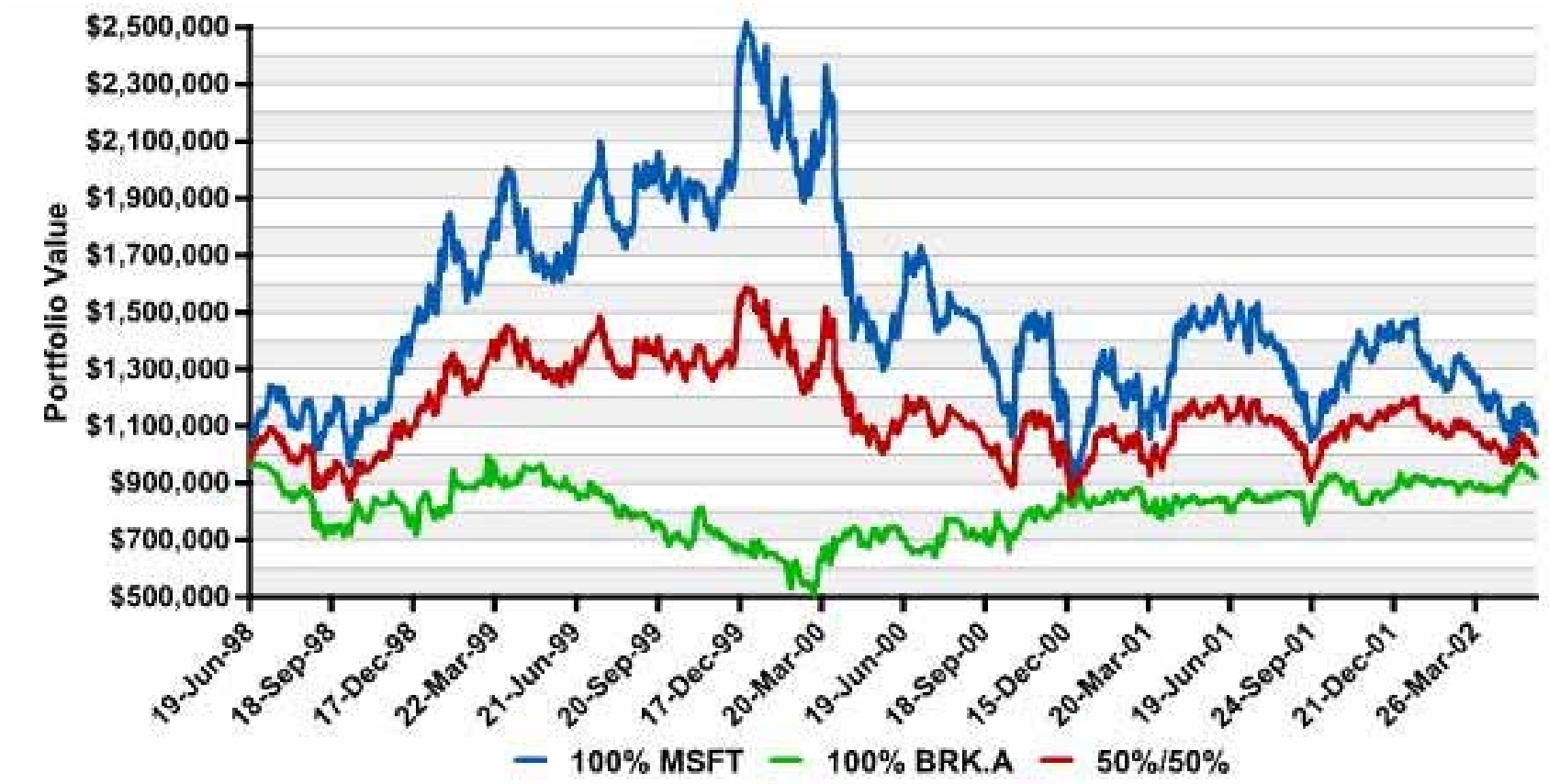
Portfolio Diversification & Forecasting

Between 1952 and 1959 Harry Markowitz determined risk could be reduced and returns enhanced through the diversification of assets with less than perfect correlation

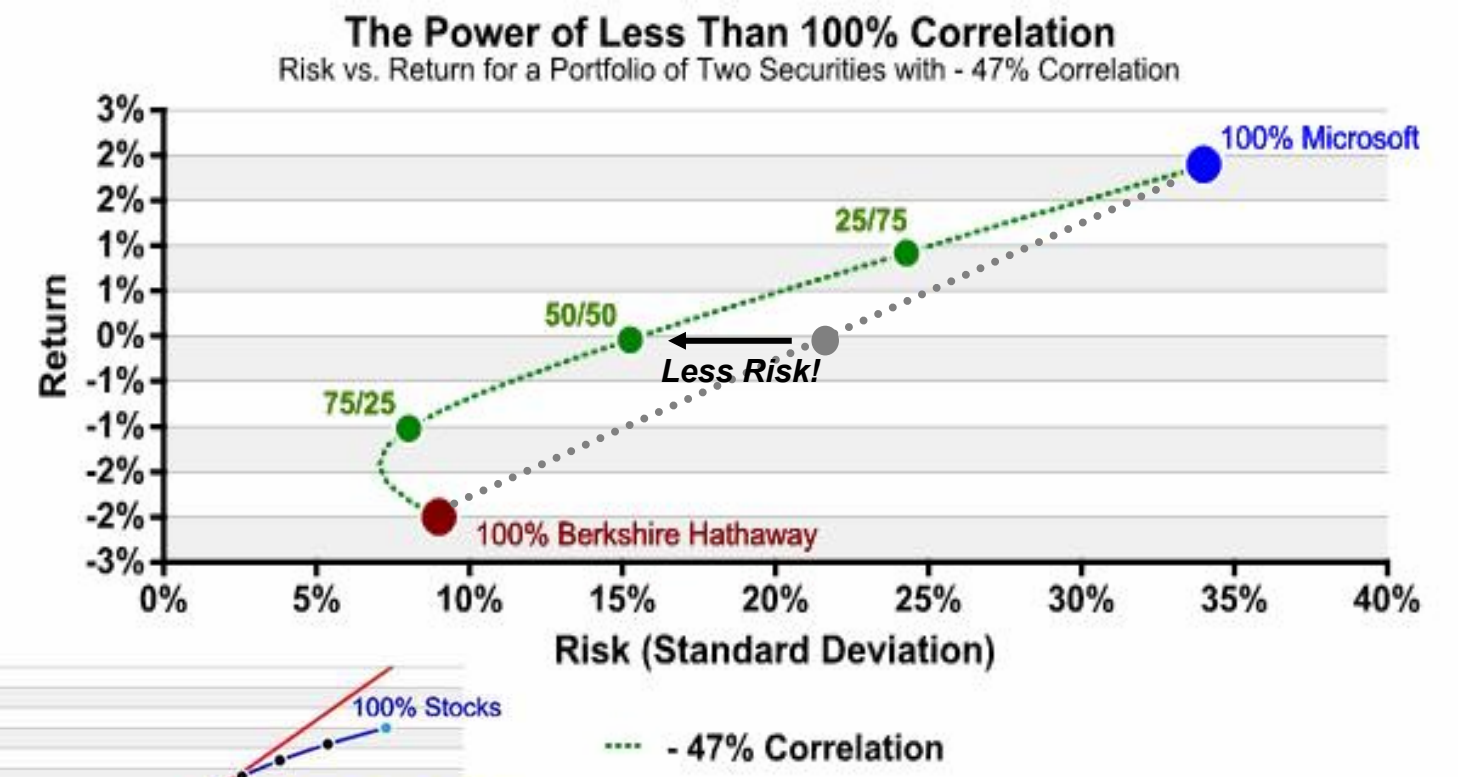
Correlation is the relationship between two or more securities
Linear Correlation is one of many forms of Dependency models

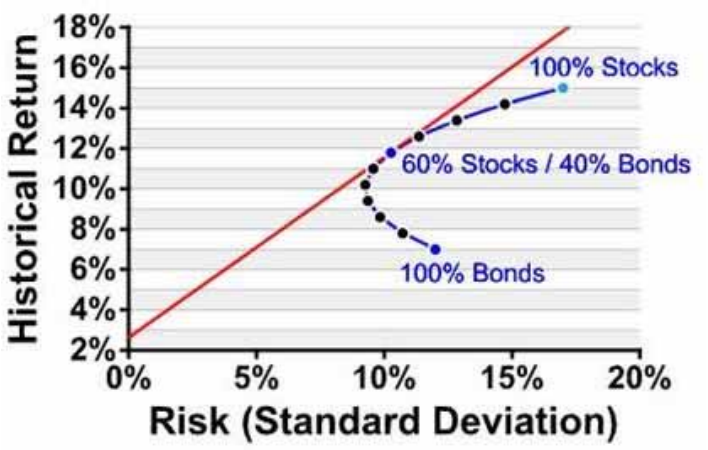
Correlation Between Microsoft & Berkshire Hathaway

Daily Prices of Two Stocks with -.47 Correlation



Diversification is the Secret Sauce

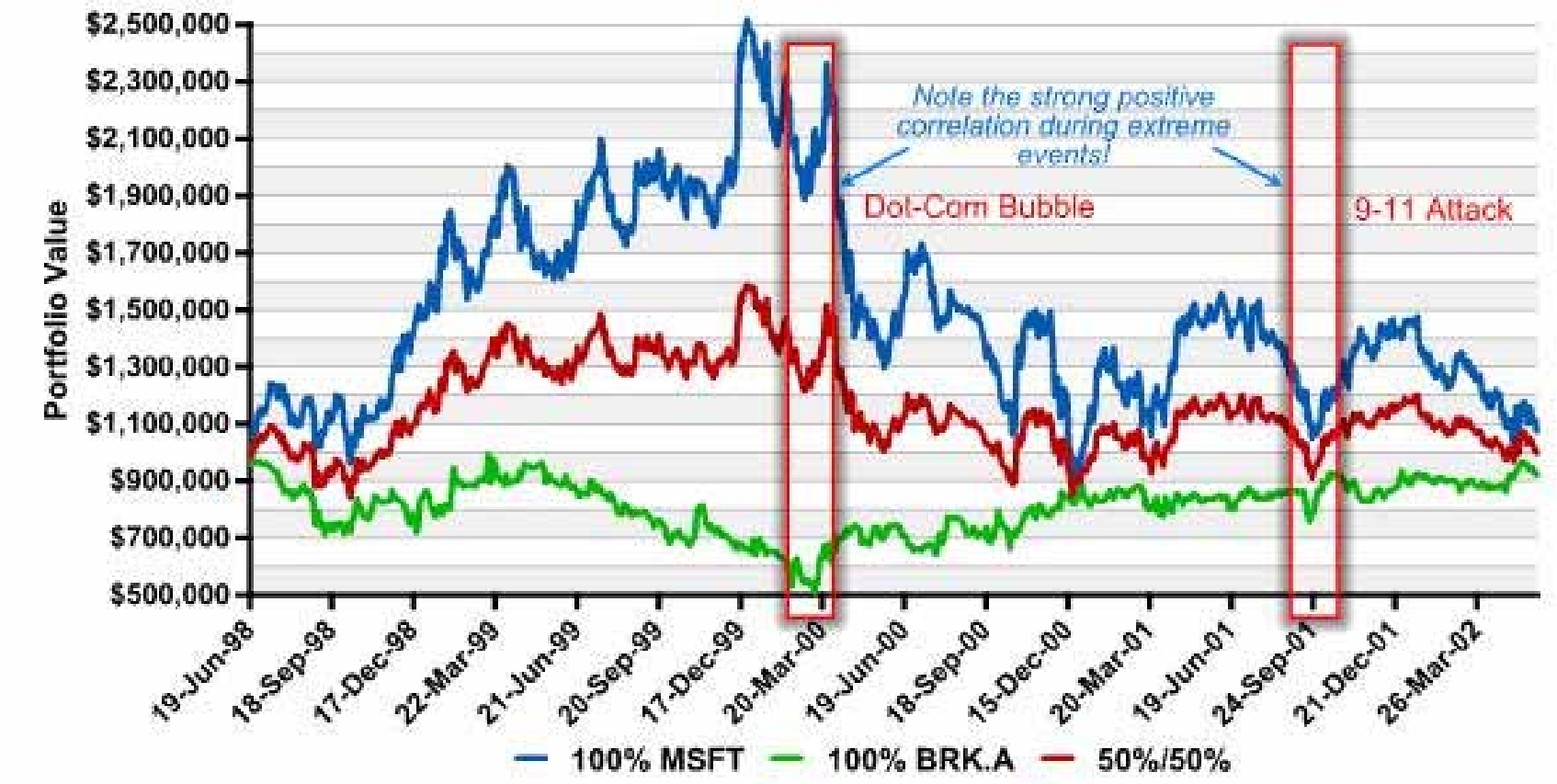




Mixing less than perfectly correlated assets reduces risk and frequently enhances returns

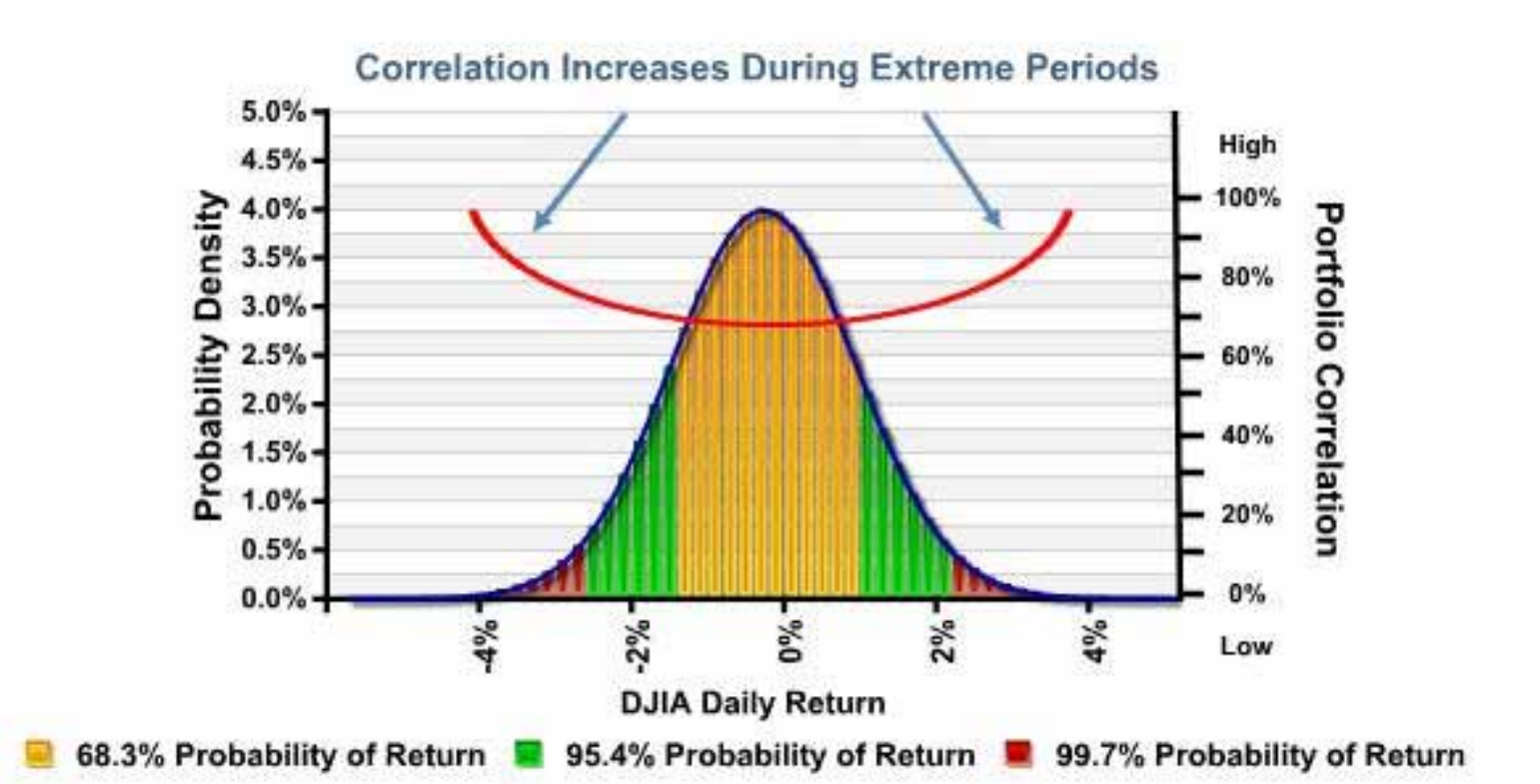
The Weakness of Correlation during Outliers

Daily Prices of Two Stocks with -.47 Correlation



Correlation Between Securities Constantly Changes

Replacing Static Linear Correlation with Dynamic Copula Dependency

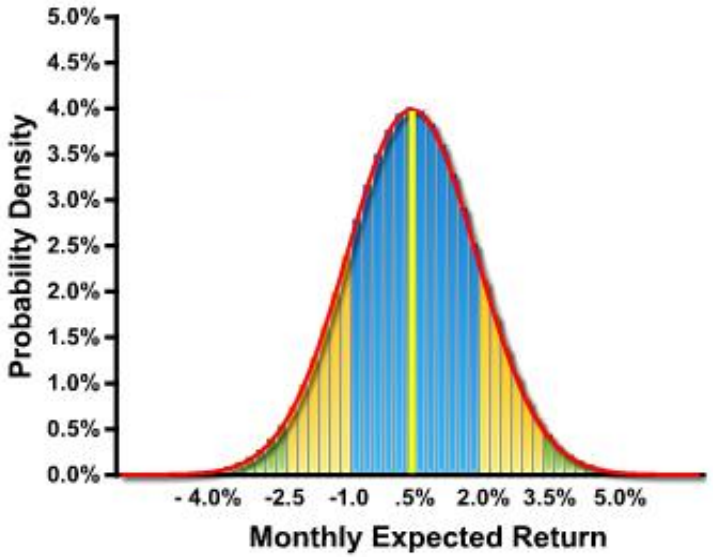


The inter-dependency between two securities is in a constant stat of flux for most assets

Measuring Dependencies

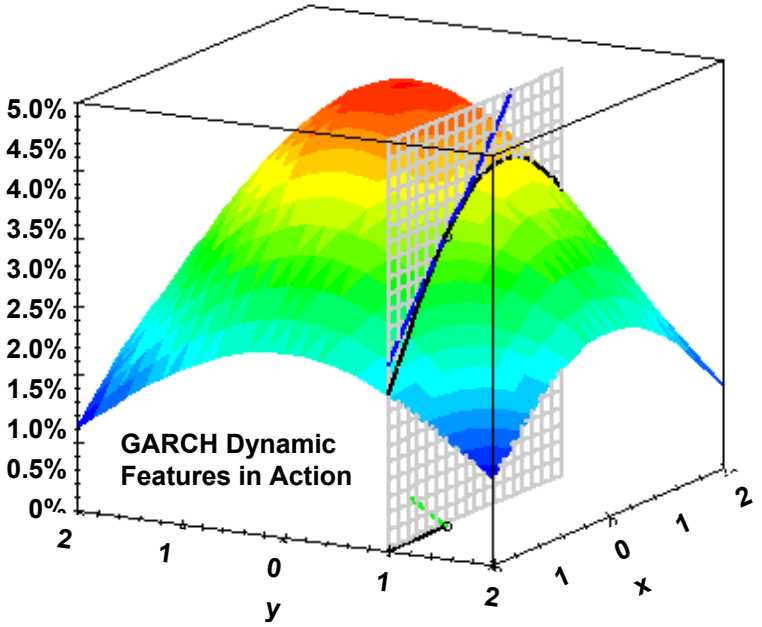
Static Linear Correlation vs. Dynamic Copula Dependency

Linear Correlation



Reversion to a Mean Average Return

Copula Dependency



Monte-Carlo Simulations

Part 5

Portfolio Optimization

Combining Risk, Return, Correlation, & Stress-Testing

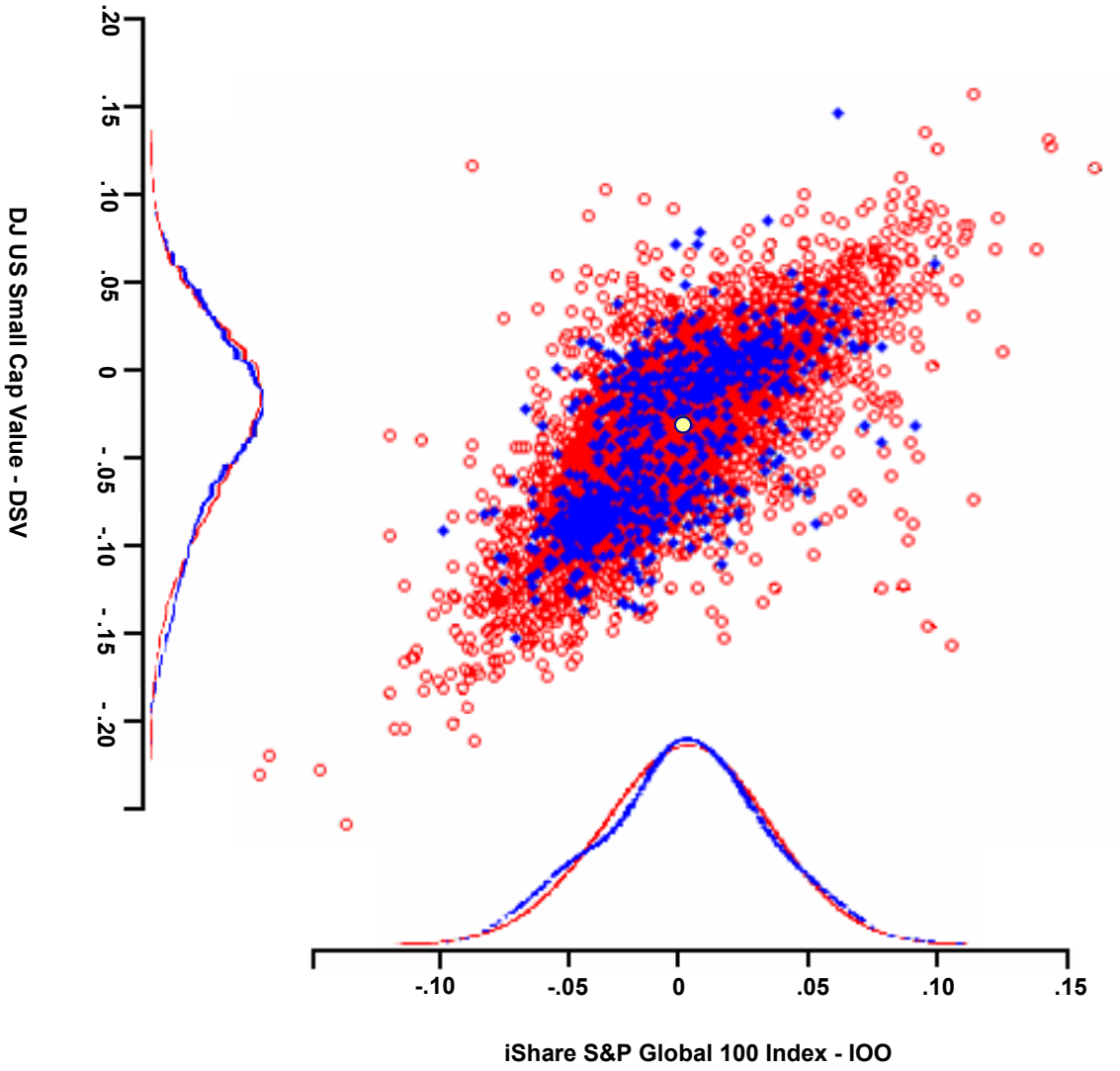
"Extreme Value Theory, borrowed from the insurance industry, is on the right track; it assumes prices vary wildly, with fat-tails that scale."

Benoit Mandelbrot

Inventor of Fractal Geometry, Sterling Professor at Yale University
Wolf Prize in Physics, Japan Prize in Science & Technology
The Misbehavior of Markets, Mandelbrot & Hudson,2004

Distributions, Dependency, & Forecasting

Forecasting is Problematic with Normal Distributions and MVO (MPT)



Forecasts for IOO:
Risk Increasing with Returns Decreasing

Forecasts for DSV:
Risk Decreasing with Returns Increasing

	DSV	IOO
Forecast Mean Return	2.83%	1.44%
Historical Mean Return	0.99%	2.03%
Forecast Volatility	1.55%	2.67%
Historical Volatility	8.17%	4.58%
Alpha	0.856	0.797
Shape	15.47	29.46
Dependency (Correlation)	0.517	

Part 6

Portfolio Management

Fund Selection & Portfolio Rebalancing

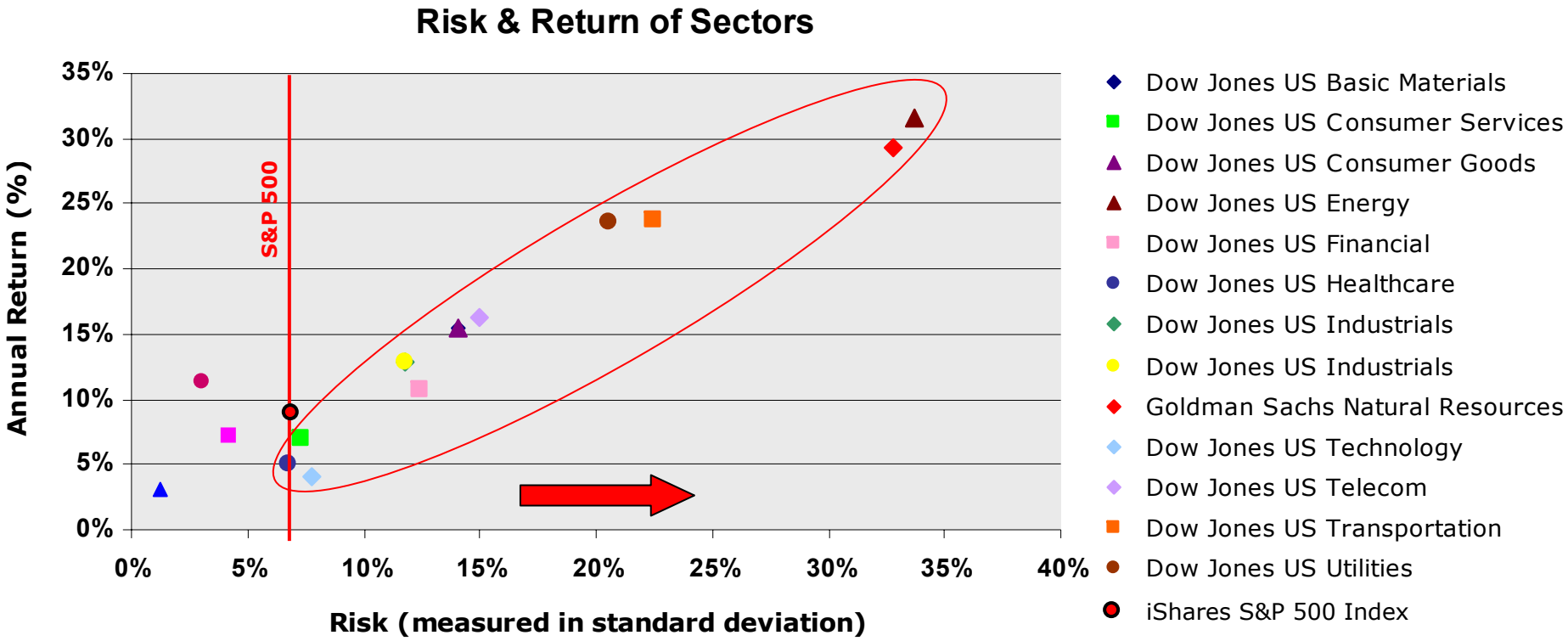
"If there is one message I'd like to pass on...it is this:
Finance must abandon its bad habits and adopt a scientific method"

Benoit Mandelbrot

Inventor of Fractal Geometry, Sterling Professor at Yale University
Wolf Prize in Physics, Japan Prize in Science & Technology
The Misbehavior of Markets, Mandelbrot & Hudson,2004

Reducing Risk Through Proper Fund Selection

Risk & Return of Dow Jones Sectors – 3 Years



Note the additional risk from sector investing!

Is it possible to get below market risk when the sum of the parts are risky?

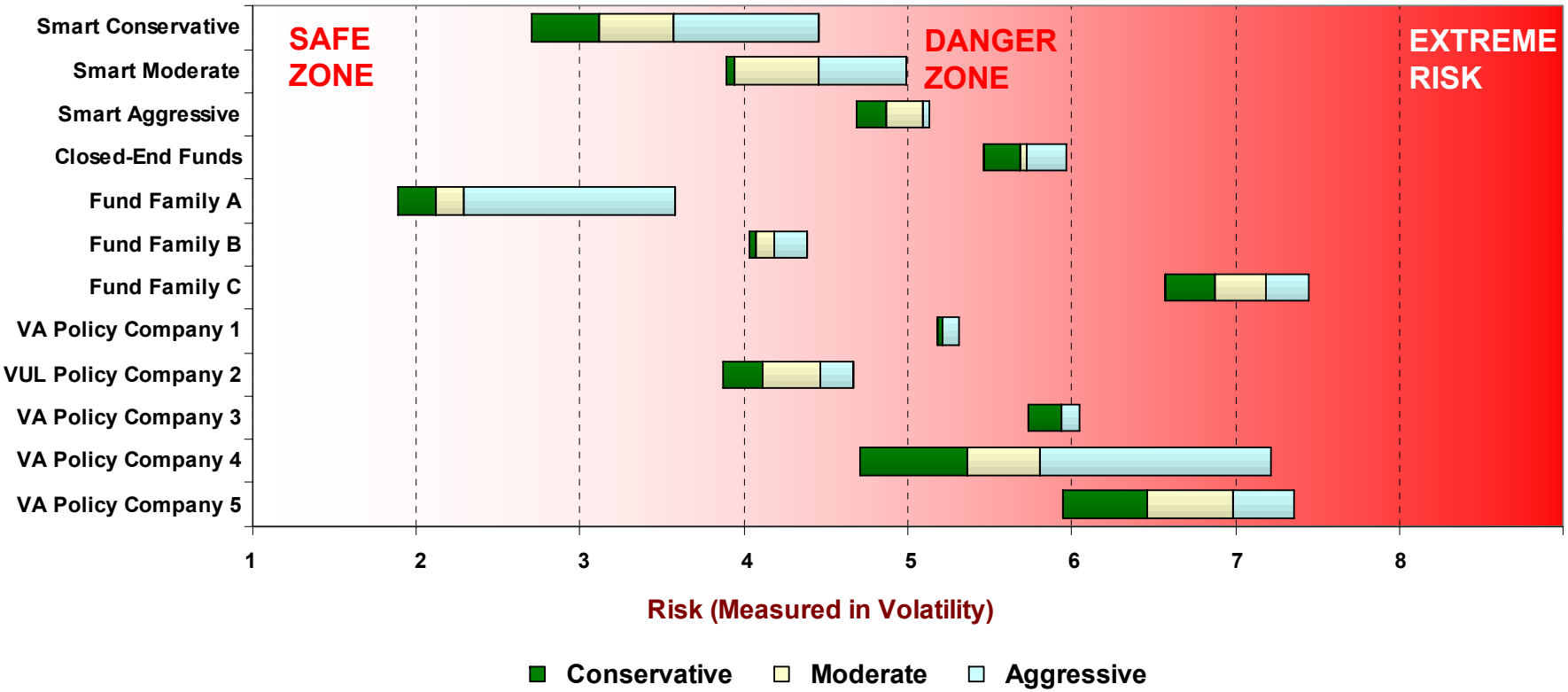
How do you know you have the proper assets and the correct combinations of assets?

How Risky is Your Fund Universe?

Fund Universes from 1/17/2001 to 3/31/2006

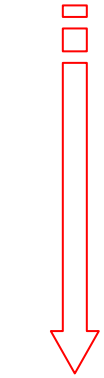
Overall Volatility of Optimized Fund Universes

(at Conservative, Moderate, & Aggressive Risk Levels)



Are one of these your fund?

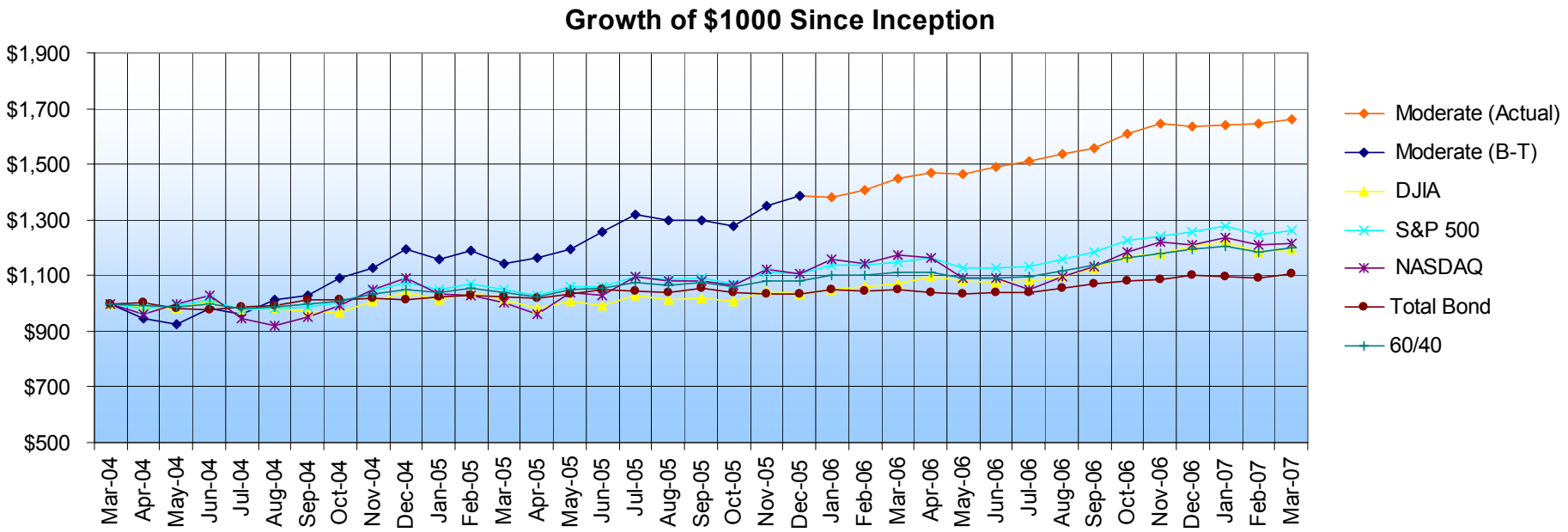
Smart Strategies to Meet Client Risk Profiles



Risk Level	Strategies Offered by Smart Portfolios
Class 1	
Class 2	Mutual Funds
Class 3	ETF, Mutual Funds, VUL and Variable Annuity Fund Families
Class 4	ETF
Class 5	
Class 6	

Class 3 – Mutual Funds

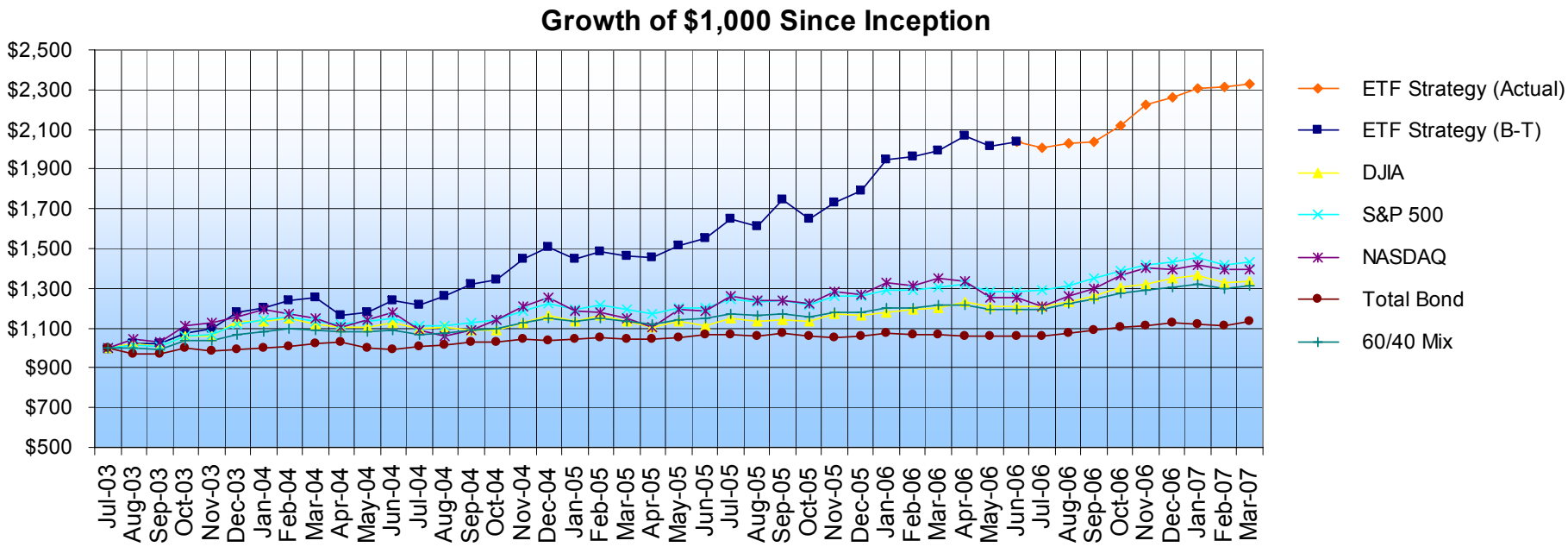
from March 2004 to April 2007



This report has been prepared from data believed reliable, but no representation is made as to accuracy or completeness. Past performance is no assurance of future results. Total return and principal will vary. No representation is being made that any investment will achieve performance similar to those shown. Results reflect the maximum Smart Portfolio Management Fee of 1.50%, maximum custodial trading fee of 0.40% and deduction of all fund charges. Fund results prior to June 2006 are the result of back tested data. Additionally, these results include the reinvestment of all dividends and/or interest paid to the accounts, and would necessarily be lower without such reinvestment. Several indices are included so the portrayed returns may be compared against various market condition benchmarks over the same period. If your objective and/or risk classification has changed, please notify us immediately.

Class 4 – ETF

from July 2003 to April 2007



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Fund Performance

For the Day Ending 7/25/2007

Asset Allocation Fund	QTD Ending 06/30/07	
Smart Portfolios Managed Portfolios		
Class 3 – ETF (Moderate) [1]	-1.97%	
Class 4 - ETF (Aggressive) [2]	-3.23%	
Class 3 - Pacific Life Variable Universal Life [3]	-1.55%	
Class 3 - TIAA-CREF 9 Fund Universe	-0.43%	[35% RE, 22% Bond, 18.74% MM]
Class 3 - TIAA-CREF 18 Fund Universe	-0.82%	[21% RE, 17% Fixed Income, 21% MM]
Class 4 – SBL VA Fund Universe	-1.53%	
Major Market Indices		
S&P 500	-2.23%	
DJIA (DJIA)	-2.26%	
NASDAQ Composite	-1.84%	
Russell 2000	-2.59%	
DJ Wilshire 5000	2.31%	

Disclaimer

[1] Returns are Gross of Management Fees, but Net of Transaction Charges

[2] Returns are Net of Management Fees and Transaction Charges

[3] Returns are Net of Management Fees, Transaction Charges, and M&E Expenses

The performance and statistical data set forth in this summary have been prepared from original sources and data that are believed to be reliable. However, no independent verification has been conducted and no representation or warranty is being made by Smart Portfolios, LLC or any other person (including any of its agents or representatives) as to the accuracy or completeness of the information contained herein. Past performance is no guarantee of future results, and there can be no assurance that the investments offered by Smart Portfolios, LLC, or by the underlying mutual fund managers, will result in comparable returns.

Fund Performance

For Periods Ending 6/30/2007

Asset Allocation Fund	QTD Ending 06/30/07	YTD Ending 06/30/07	2006	2005	Since 2005	Start Date
Smart Portfolios Managed Portfolios						
Class 3 – ETF (Moderate) [1]	4.14%	9.04%	18.60%	6.18%	38.64%	1/3/2005
Class 4 - ETF (Aggressive) [2]	2.91%	6.12%	20.75%	n/a%	26.47%	1/3/2006
Class 3 - Pacific Life Variable Universal Life [3]	4.45%	6.06%	15.55%	14.32%	52.35%	4/4/2005
Class 3 - TIAA-CREF 9 Fund Universe	2.02%	5.68%	7.66%	9.37%	24.35%	1/3/2005
Class 3 - TIAA-CREF 18 Fund Universe	3.15%	6.77%	9.98%	15.69%	35.85%	1/3/2005
Major Market Indices						
S&P 500	6.28%	6.96%	15.79%	4.91%	32.79%	1/3/2005
DJIA (DJIA)	8.53%	7.59%	16.29%	-0.61%	24.35%	1/3/2005
NASDAQ Composite	7.50%	7.78%	9.52%	1.37%	19.66%	1/3/2005
Vanguard Total Bond Index (VBMFX)	-1.88%	-1.14%	3.90%	2.32%	7.32%	1/3/2005
60/40 (S&P 500 & Vanguard Total Bond - VBMFX)	3.02%	3.72%	11.03%	3.87%	22.60%	1/3/2005

Disclaimer

[1] Returns are Gross of Management Fees, but Net of Transaction Charges

[2] Returns are Net of Management Fees and Transaction Charges

[3] Returns are Net of Management Fees, Transaction Charges, and M&E Expense

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Fund Universes

Class 4 - ETF

68 Fund Universe

- Asia 50 ADR Index
- Cohen & Steers Realty Majors
- Developed Mkt 100 ADR Index
- DJ Transportation Avg
- DJ US Basic Materials
- DJ US Healthcare
- DJ US Industrial
- DJ US Large Cap Growth
- DJ US Real Estate
- DJ US Small Cap Growth
- DJ US Small Cap Value
- DJ US Telecom
- DJ Wilshire Mid Cap Growth
- Dow Jones US Utilities
- Emerging Mkts 50 ADR Index
- Emerging Markets Stk
- Energy Sector
- Financial Select Sector
- Financials Sector
- Gold Shares
- Goldman S. Natural Resource
- Goldman S. Technology Indx
- GS $ InvestTop Corp Bond
- Health Care Sector
- Industrials Sector
- Internet Infrastr HOLDRs
- Lehman 1-3 Year Treasury
- Lehman 20+ Year Treas Bd
- Lehman 7-10 Year Treasury
- Lehman Aggregate Bond
- Lehman TIPS Bond
- Materials Sector
- Materials Select Sector
- MidCap
- Money Market Fund
- Morgan Stanley Technology
- Morningstar Lg Core Index
- Mornstar Mid Growth Index
- Mornstar Small Core Index
- Morstar Small Growth Index
- MSCI Australia Index
- MSCI Brazil (Free) Index
- MSCI Canada Index
- MSCI EAFE Growth Index
- MSCI EAFE Index Fund
- MSCI EAFE Value Index
- MSCI Japan Index
- MSCI Netherlands Index
- MSCI South Korea Index
- MSCI Switzerland Index
- MSCI Taiwan Index
- NASDAQ 100 Trust Shares
- Oil Services Sector
- PowerShares Dynamic OTC
- Russell 2000 Index
- Russell 2000 Value Index
- Russell Midcap Value Index
- S&P Europe 350 Index
- S&P Global 100 Index
- S&P Global Financials Sector
- S&P Global Healthcare Sector
- S&P Latin America 40 Index
- S&P MidCap 400 Value Index
- S&P Sm-Cap 600 Value Index
- S&P/TOPIX 150 Index
- Small Cap Sector
- Telecom Services Sector
- Utilities Select Sector
- Wilshire REIT Fund

Class 3 – Mutual Funds

38 Fund Universe

- Rydex Banking
- Rydex Basic Materials
- Rydex Biotechnology
- Rydex Consumer Products
- Rydex Electronics
- Rydex Financial Services
- Rydex Health Care
- Rydex Internet
- Rydex Leisure
- Rydex Retailing
- Rydex Technology
- Rydex Telecommunications
- Rydex Transportation
- Rydex Utilities
- Rydex Energy
- Rydex Energy Services
- Van Kampen Real Estate Secs
- AIM European Growth
- AIM International Growth
- AIM Asia Pacific Growth
- BlackRock Government Inc
- Cohen & Steers Realty Income
- Calamos Global Growth & Inc
- Calamos Growth & Income
- Dreyfus CA Int Muni Bond
- Dreyfus Premier CA Tax Ex Bd
- Dreyfus U.S. Treas Long-Term
- Dreyfus U.S. Treas Intrm-Term
- Dreyfus NY Tax-Exempt Bond
- Dreyfus Insured Municipal Bond
- General NY Municipal Bond
- Goldman Sachs Real Estate
- Phoenix Real Estate Securities
- Pioneer Real Estate
- ProFunds Ultra Real Estate
- Davis Real Estate
- SSgA Tuckerman Active REIT
- Rydex Ser Trst - US Gov (MMA)

Class 3 - Pacific Life

20 Fund Universe

- Fasciano
- Aggressive Growth
- Capital Opportunities
- Emerging Markets
- Equity Index
- Financial Services
- Focused 30
- Growth LT
- Health Sciences
- High Yield Bond
- Inflation Managed
- Int'l Large-Cap
- International Value
- Managed Bond
- Mid-Cap Growth
- Mid-Cap Value
- Real Estate
- Small-Cap Index
- VEHA
- Money Market

Class 3 - TIAA-CREF 18

18 Fund Universe (Add)

- Growth & Income
- Social Choice Equity
- International Equity
- Large-Cap Value
- Mid-Cap Growth
- Mid-Cap Value
- Real Estate Securities
- S&P 500 Index
- Small-Cap Equity

Class 3 - CEF/ETF

40 Fund Universe

- Alliance World Dollar Govt 2
- Emerging Markets Income Fund
- Emerging Markets Floating Rate Fund
- Global High Income Fund
- DJ US Large Cap Growth
- DJ US Large Cap Value
- Emerging Markets Income Fund
- Evergreen Managed Income Fund
- MSCI South Korea Index
- MSCI Brazil (Free) Index
- Franklin Universal Trust
- Cohen & Steers Realty Majors
- Lehman 7-10 Year Treasury
- India Fund, Inc.
- Insured Municipal Income
- S&P MidCap 400 Value Index Fund
- S&P Latin America 40 Index
- Insured Municipal Securities
- Russell 2000 Value Index
- Dow Jones US Real Estate
- Morningstar Mid Growth Index
- Morningstar Small Core Index
- Morningstar Small Growth Index
- Latin America Equity
- MidCap SPDRs
- Premium Income Muni Fund 4
- Municipal Value Fund
- Patriot Global Dividend
- Insured Municipal Income Fund
- Wilshire REIT Fund
- Worldwide Income
- Lehman 1-3 Year Treasury Bond
- Templeton Dragon Fund
- Emerging Markets Income Fund
- Lehman TIPS Bond
- Lehman 20+ Year Treas Bond
- Industrials VIPERs
- Telecom Services VIPERs
- Emerging Markets Stock VIPERs
- Money Market

That's All Mates!

" Thank you "

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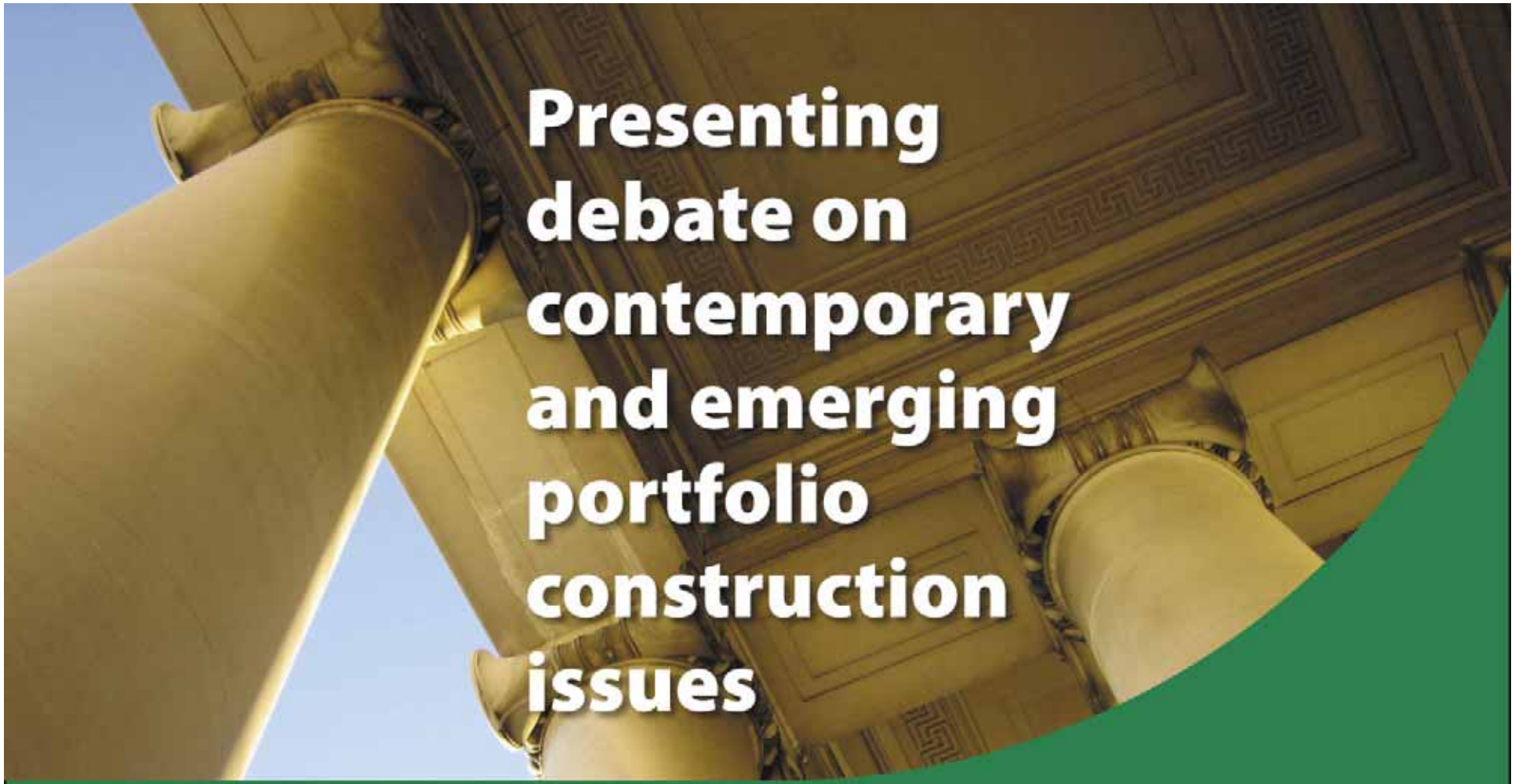

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