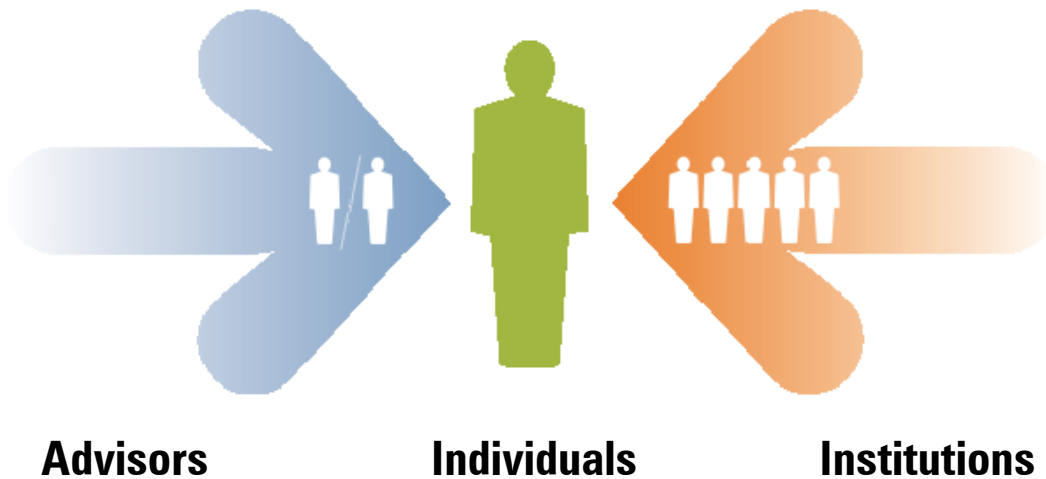


Beyond Beta: Passive Alternatives to Active Commodity Strategies

Paul D. Kaplan, Ph.D., CFA
Vice President, Quantitative Research
Morningstar, Inc.

The Growing Interest in Commodities



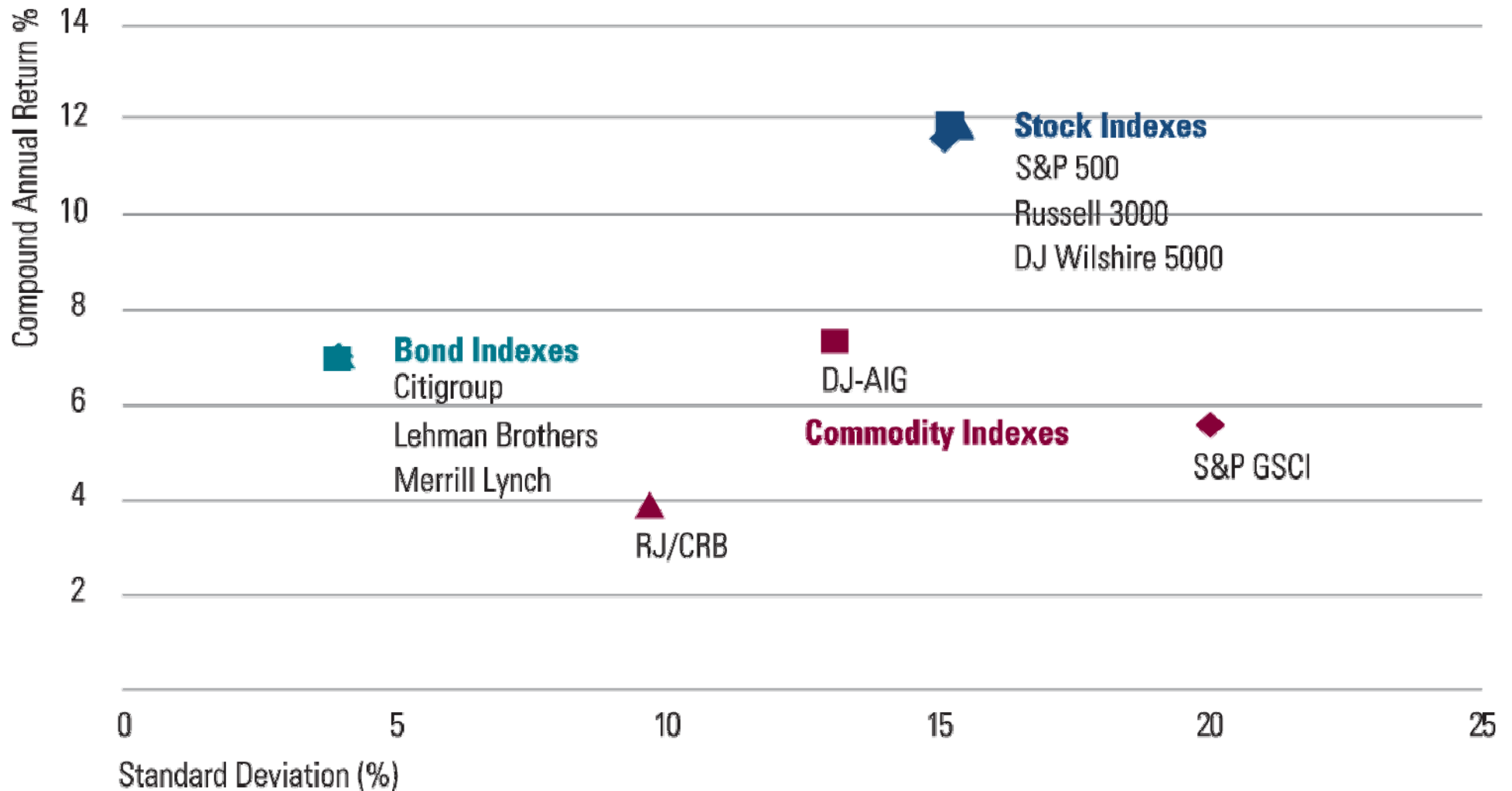
- ▶ Commodities are an effective portfolio diversifier
- ▶ Institutions, advisors, & individual investors want better information and benchmark data
- ▶ Significant interest in gaining exposure in a way that provides a good investor experience

Benefits of Commodity Investing



- ▶ Commodities have zero or negative correlation with equities and bonds
- ▶ Act as a hedge against inflation
- ▶ Provide diversification when you need it most

No Such Thing as a Commodity Beta

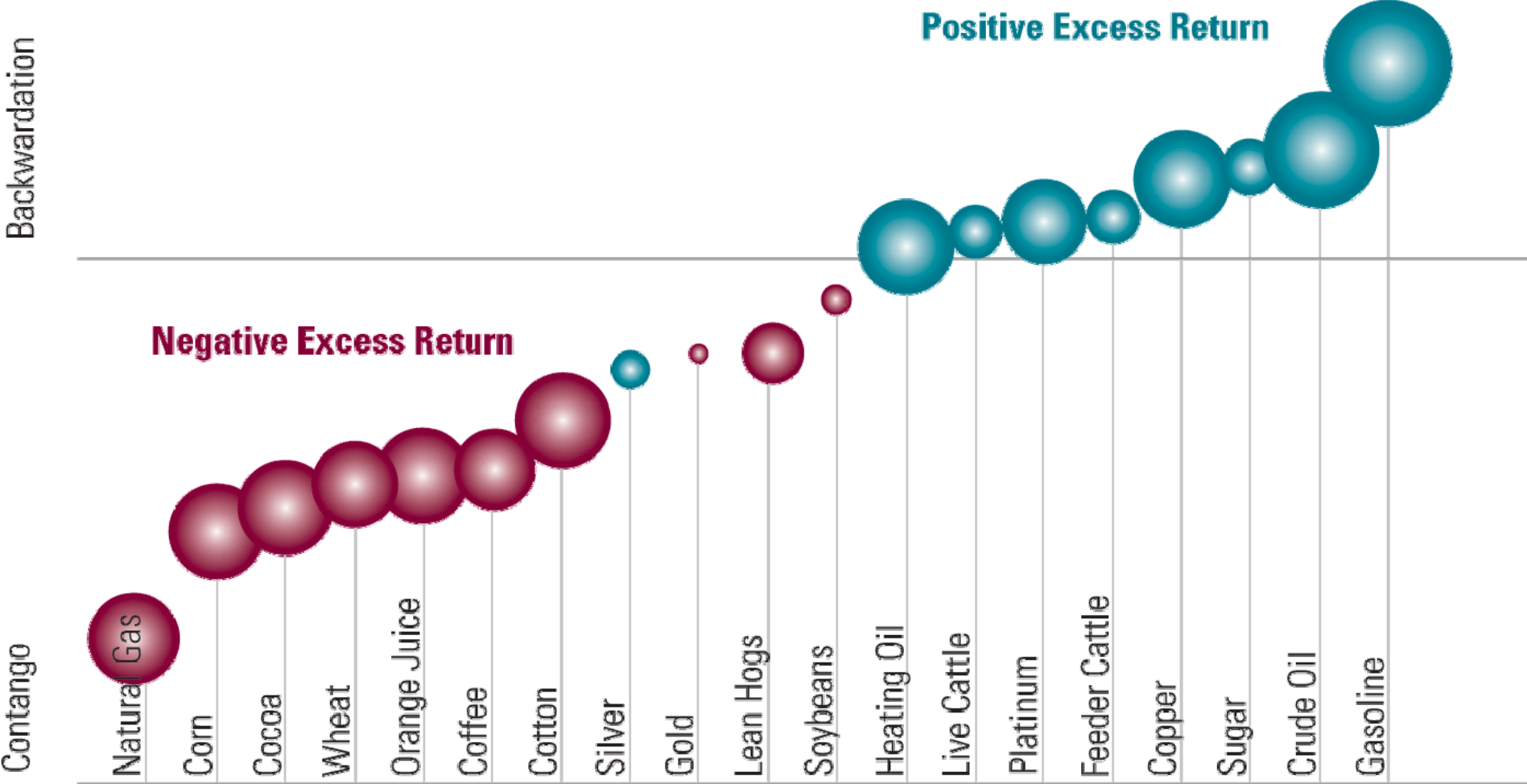


Shortcomings of Existing Commodity Indexes

Sector	S&P GSCI %	DJ-AIG %	CRB %	UBS CMCI %
Industrial Metals	11.7	18.5	13.0	28.9
Precious Metals	2.4	9.1	7.0	4.5
Energy	69.7	32.9	39.0	32.9
Agriculture	11.4	30.0	34.0	29.4
Livestock	4.3	9.1	7.0	4.3

- ▶ Prominent commodity indexes are long-only
- ▶ Significant differences in composition of the indexes

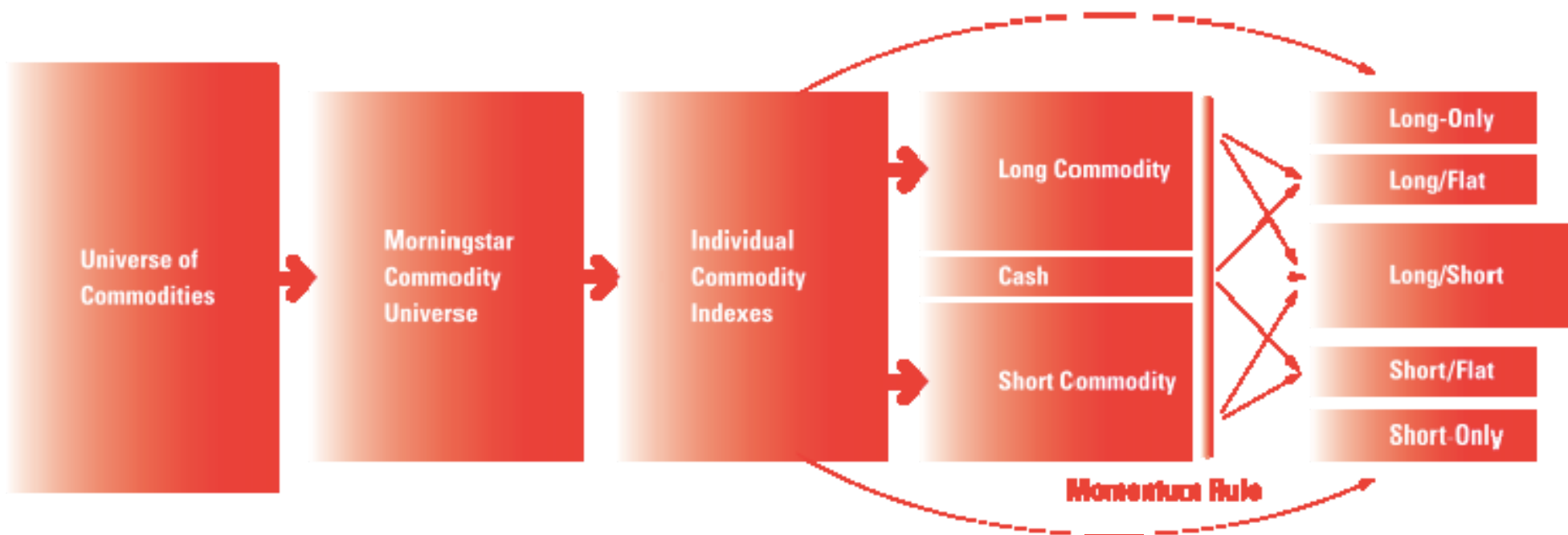
Relationship Between Commodity Yield Curve and Returns



Case for Long/Short Commodity Investing

- ▶ Futures markets is a zero sum game
- ▶ Equal number of long and short positions
- ▶ Three classes of participants
 - ▶ Producers—generally hold short positions
 - ▶ Consumers—generally hold long positions
 - ▶ Investors (or speculators)—indifferent to futures position (motivated solely by profits)
- ▶ Large price changes are usually the result of some major shock in supply/demand
- ▶ Periods of rapid change provide investors with profit opportunities

Morningstar Commodity Index Family



1. Commodities trading on a U.S. exchange
2. Rank in top 95% of dollar value of open interest

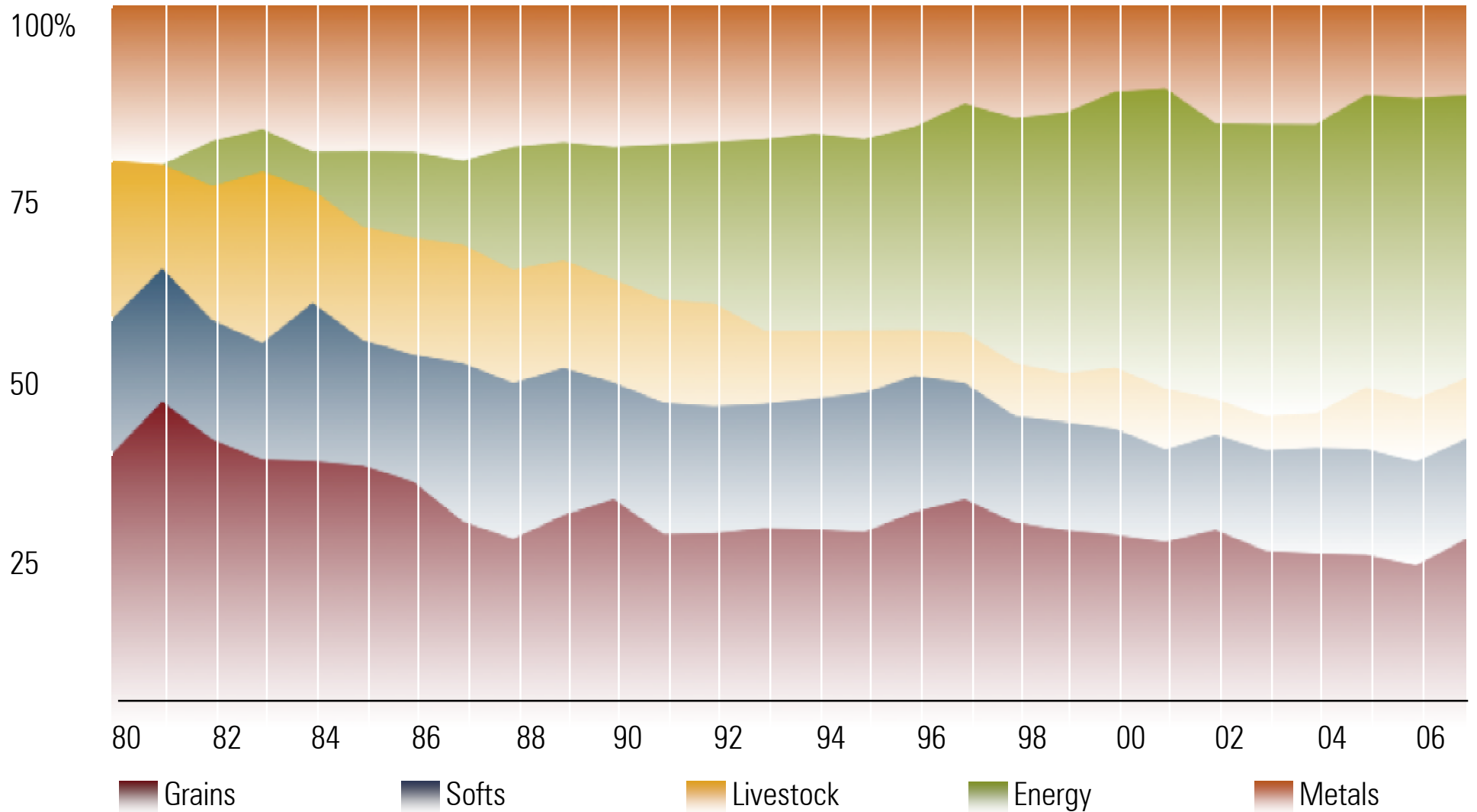
Construct linked price index for each commodity

Momentum signals:

1. Current price $>$ 12-month moving average = long
2. Current price $<$ 12-month moving average = short

Combinations of long and short futures and cash positions

Morningstar Long-Only Commodity Index Sector Exposures



Risk Return Profile of Long/Short Index 01-1991 through 06-2007

Index	Geometric Mean %	Annualized Std Dev
Morningstar Long-Only	9.96	14.46
Morningstar Long/Short	10.44	10.62
Morningstar Long/Flat	9.67	9.90
S&P GSCI	5.60	20.05
DJ-AIG	7.47	13.12
S&P 500	11.87	15.17
LB Aggregate Bond	6.91	3.98
U.S. 30-Day T-Bill	3.95	0.47

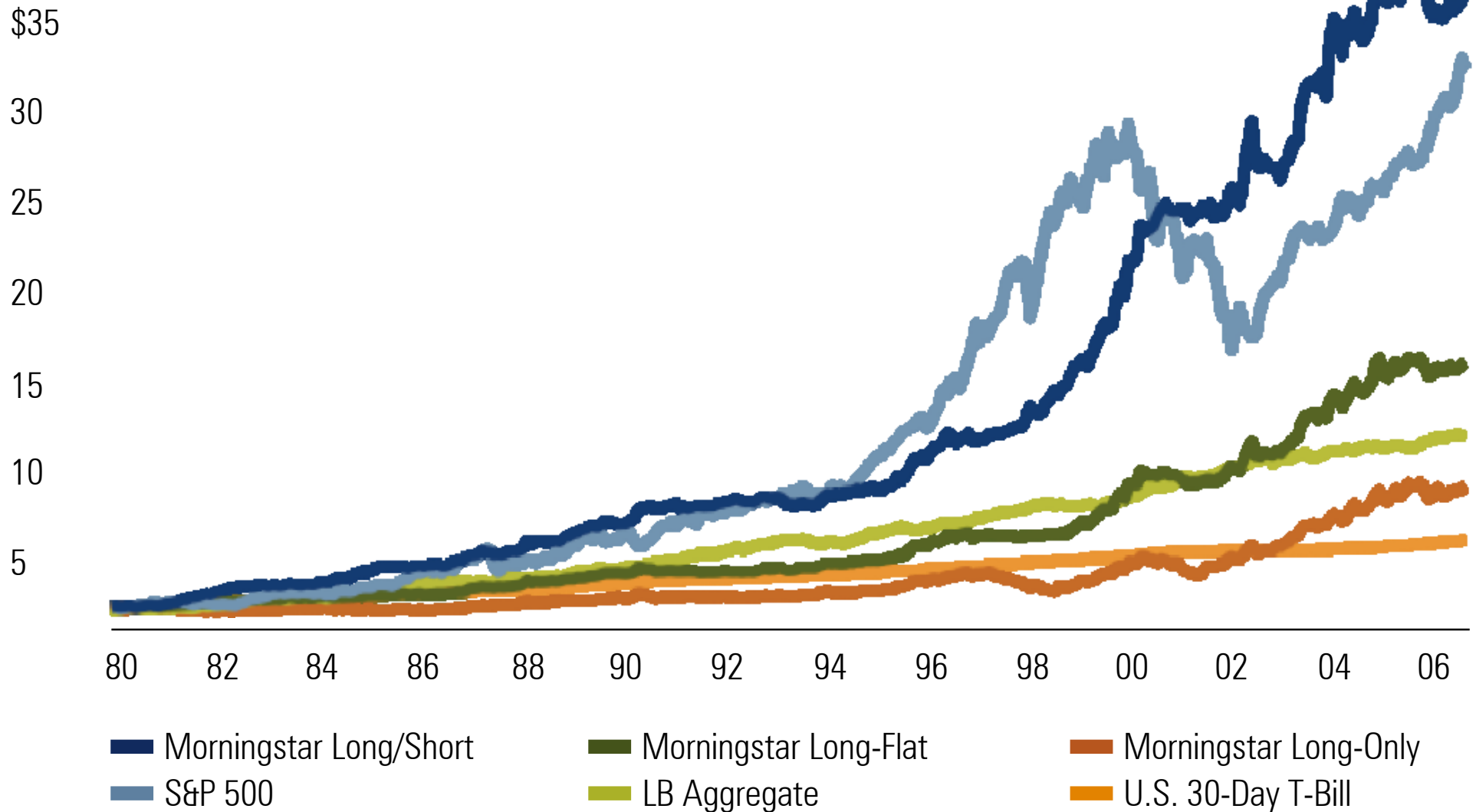
- ▶ Equity like returns with lower volatility
- ▶ Significantly lower risk than long-only indexes

Increased Downside Protection 01-1991 through 06-2007

Index	Max Drawdown	Annualized Sharpe Ratio
Morningstar Long-Only	-35.28	0.48
Morningstar Long/Short	-11.39	0.68
Morningstar Long/Flat	-8.83	0.48
S&P GSCI	-48.25	0.18
DJ-AIG	-36.20	0.34
S&P 500	-44.73	0.61
LB Aggregate Bond	-5.15	0.80
U.S. 30-Day T-Bill	0.00	0.00

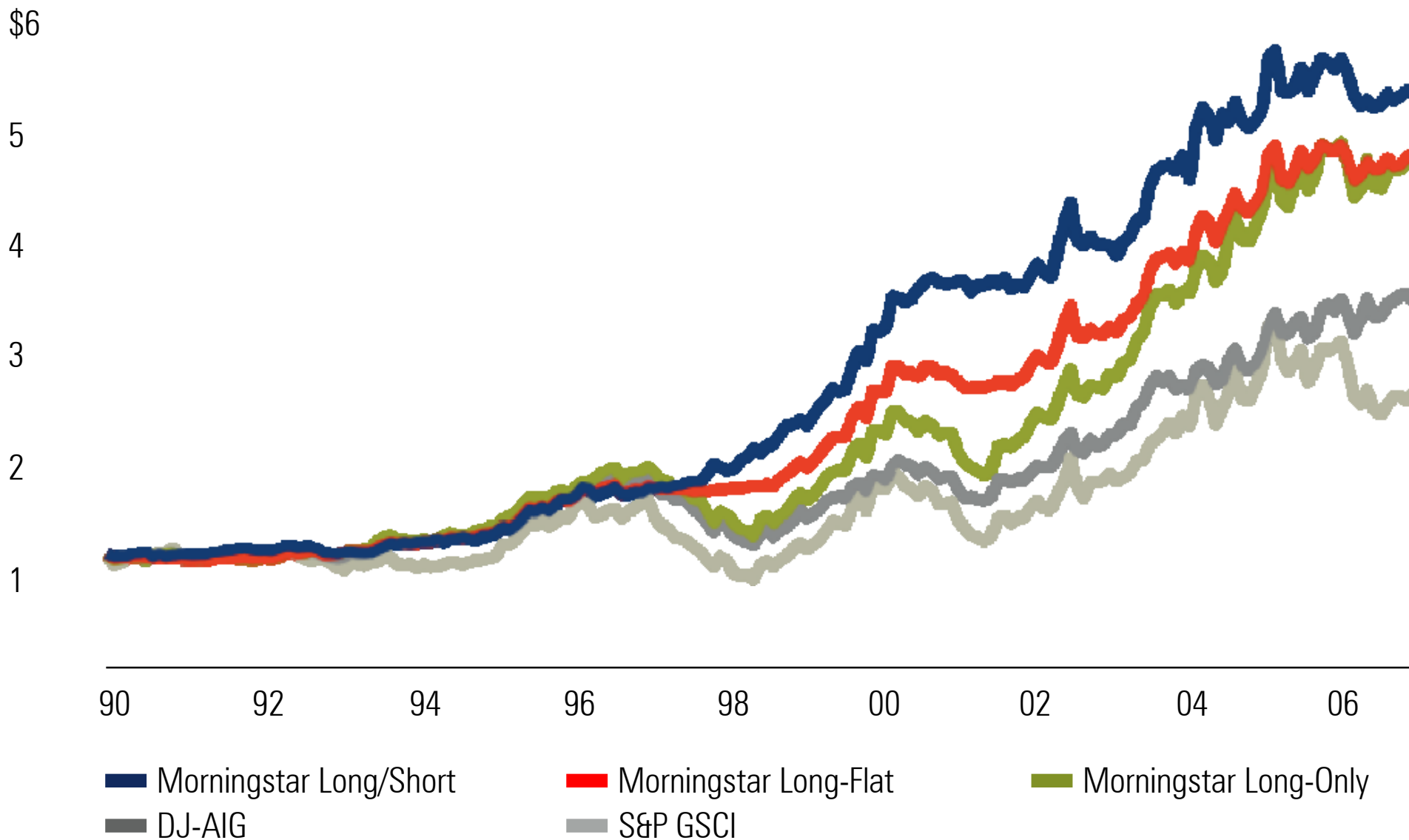
- ▶ Significantly lower drawdown for long/short and long/flat indexes
- ▶ Higher risk-adjusted returns

Stocks, Bonds, Bills, & Commodities Growth 1980-2006



Morningstar Commodity Indexes

01-1991 through 06-2007



Correlation with Financial Assets 01-1991 through 06-2007

Index	Mstar L/S	Mstar L/F	Mstar L-O	S&P GSCI	DJ-AIG Comm	S&P 500	LB Agg Bond	U.S. 30- Day T-Bill
Morningstar Long/Short	1.00							
Morningstar Long/Flat	0.88	1.00						
Morningstar Long-Only	0.54	0.82	1.00					
S&P GSCI	0.62	0.78	0.91	1.00				
DJ-AIG	0.52	0.78	0.96	0.88	1.00			
S&P 500	-0.19	-0.03	0.03	-0.02	0.08	1.00		
LB Aggregate Bond	0.03	-0.01	-0.01	0.04	0.01	0.08	1.00	
U.S. 30 Day T-Bill	0.05	-0.07	-0.07	-0.04	-0.04	0.10	0.16	1.00

Summary

- ▶ Long-only strategies that dominate the commodity index market do not best serve investors as investment vehicles or as benchmarks
- ▶ Morningstar Commodity Indexes take both long and short positions using a momentum based trading rule
- ▶ Based on the underlying economics of commodity markets
- ▶ Using a momentum-based methodology, the Morningstar Commodity Indexes aim to maximize both sources of excess return—price change and roll yield
- ▶ Competitive returns with lower downside risk than long-only indexes
- ▶ Low correlations with stocks and bonds and other long-only indexes

indexes.morningstar.com



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