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# Collared Weighting: A Bridge Between Market & Fundamental Approaches

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## Security Weighting Schemes Being Debated

- ▶ Market-Cap Weighting
  - ▶ Portfolio representative of market
  - ▶ Macro-consistent
  - ▶ Fully scalable
  - ▶ Minimal rebalancing
  - ▶ Leads to extreme market exposures during bubbles
  
- ▶ Fundamental or Market Valuation Indifferent (MVI) weighting
  - ▶ Avoids extreme market exposures during bubbles
  - ▶ Introduces turnover
  - ▶ Not macro-consistent
  - ▶ Limits scalability
  - ▶ Introduces a value bias

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## Collared Weighting System

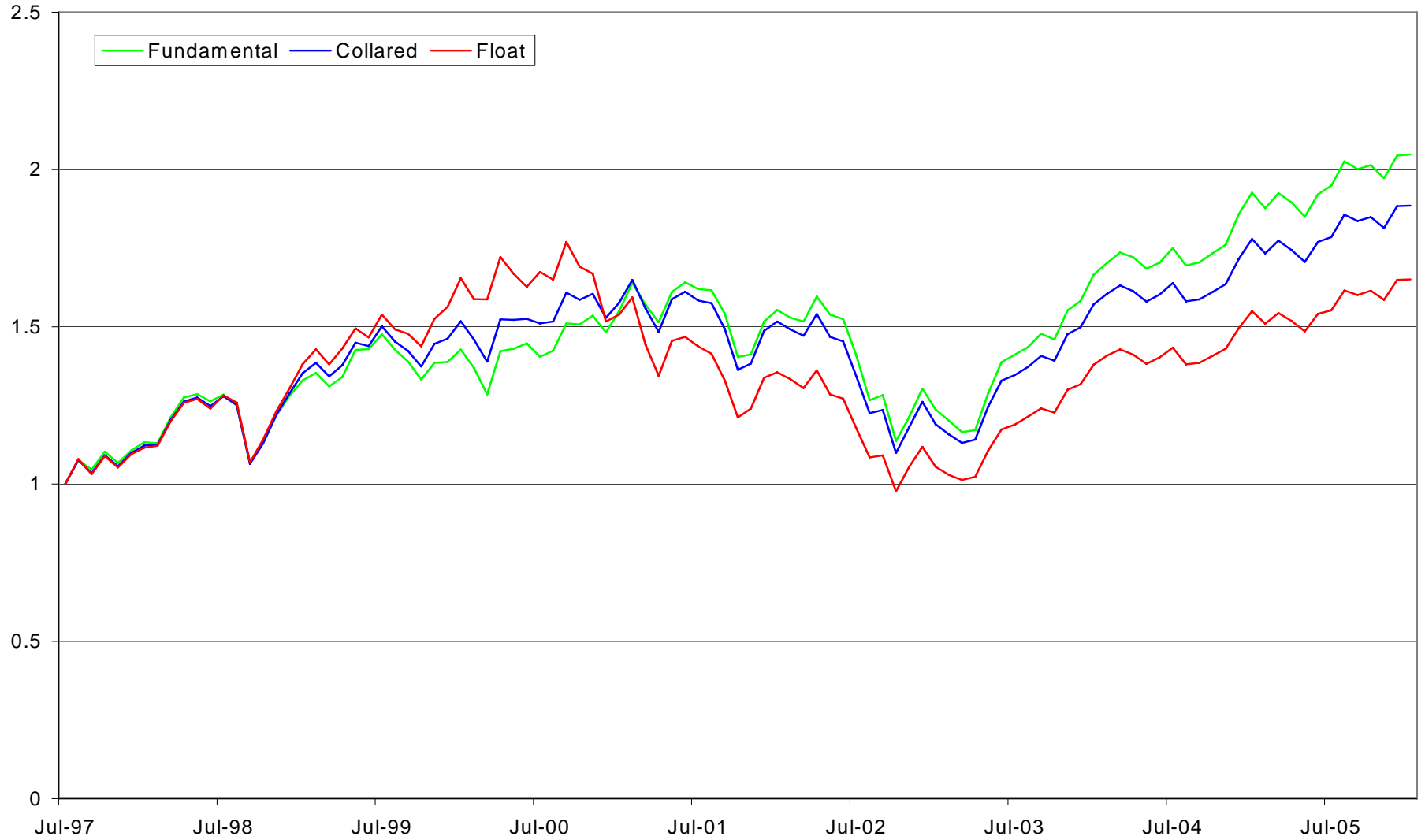
- ▶ Market-cap used to assign individual security weights and fundamental factors used to control those weights
- ▶ The security weights fluctuate within a band established by a multiple based on a combination of fundamental factors
- ▶ Limits bubble effects while maintaining features of market weighting
- ▶ Methodology
  - ▶ Fundamental weights  $\times$  collar multipliers (e.g. 0.5, 2) = collars
  - ▶ Maintain market weights of stocks that fall within collars
  - ▶ Set weights of stocks that fall outside of collars equal to collars
  - ▶ Adjust collar multipliers so that new weights sum to 100%

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## Fundamental Weights

- ▶ Security fundamental weights calculated using current & forward-looking measures
  - ▶ Revenue
  - ▶ Expected Available Invested Capital  
*(Total Equity + Long-Term Debt) \* (1 + ROIC)*
  - ▶ Indicated Dividends
- ▶ Take simple average of these three weights

# US Market Index: Relative Performance



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## US Market Index Risk & Return: July 1997 – Dec. 2005

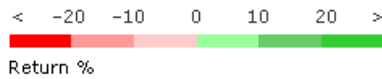
	<b>Total Return Before Costs</b>	<b>Total Return After Costs</b>	<b>Standard Deviation</b>	<b>Turnover</b>
<b>Market</b>	6.08	5.65	17.43	7.08
<b>Collared</b>	8.01	7.19	16.76	19.98
<b>Fundamental</b>	9.07	7.81	17.11	28.44

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## US Market Index: Performance Comparison

<b>12 Months Ending June 30</b>	<b>Market</b>	<b>Collared</b>	<b>Fundamental</b>
1998	28.20	28.09	28.61
1999	20.08	17.64	15.26
2000	8.77	0.79	-4.71
2001	-14.15	5.11	15.50
2002	-18.16	-14.94	-12.66
2003	1.06	0.52	0.45
2004	20.57	22.17	24.45
2005	8.31	9.13	11.54

# Morningstar Market Barometer



July 1999 - June 2000

July 2000 - June 2001

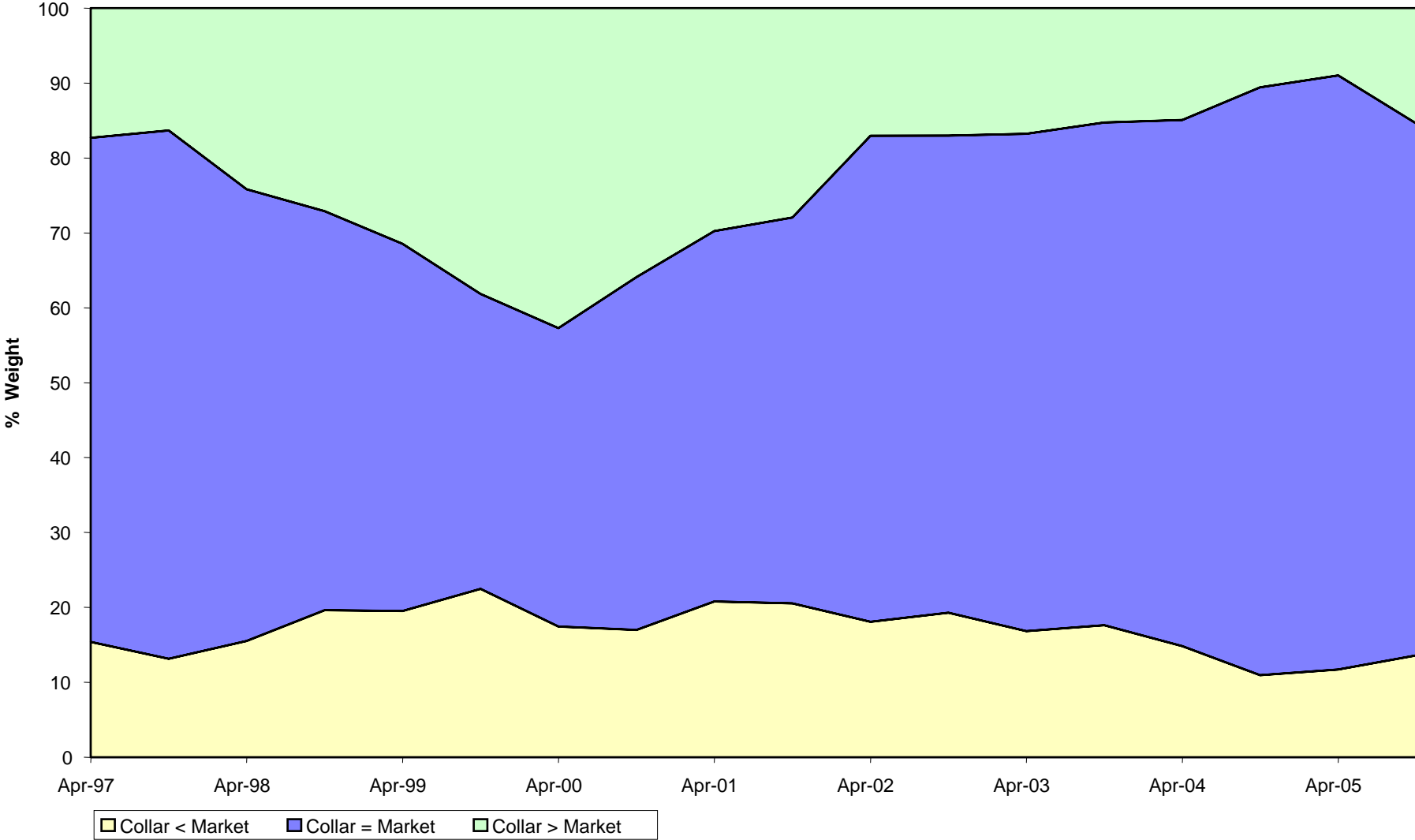


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## US Market Index: Turnover Comparison

	<b>Market</b>	<b>Collared</b>	<b>Fundamental</b>
1998	9.66	17.98	23.60
1999	14.35	25.25	34.55
2000	8.19	43.22	53.27
2001	7.88	22.03	29.39
2002	3.32	17.08	30.26
2003	4.09	11.56	18.89
2004	5.52	11.53	18.34
2005	3.64	11.15	19.18
Average	7.08	19.98	28.44

# US Market Index: Impact of Collaring

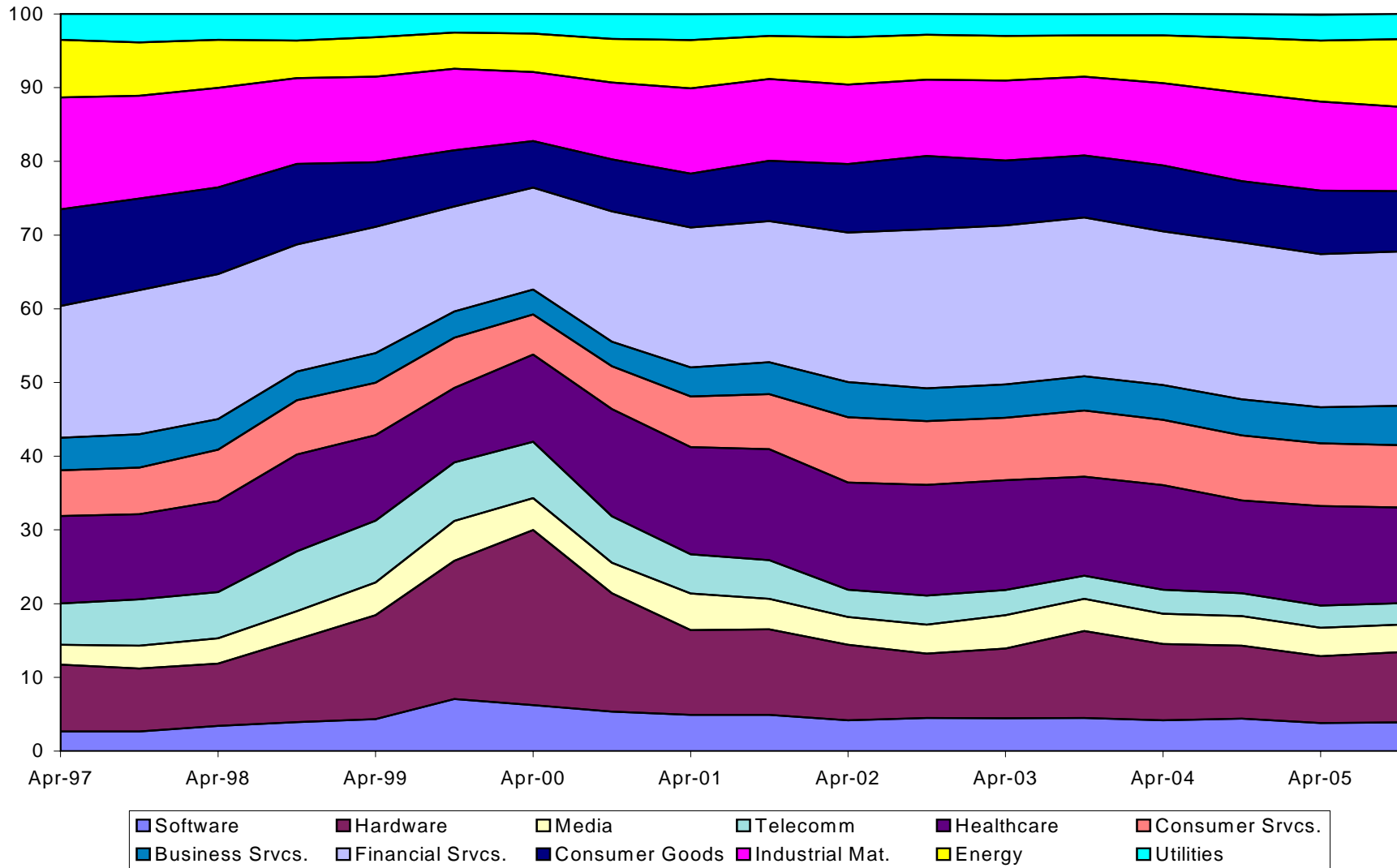


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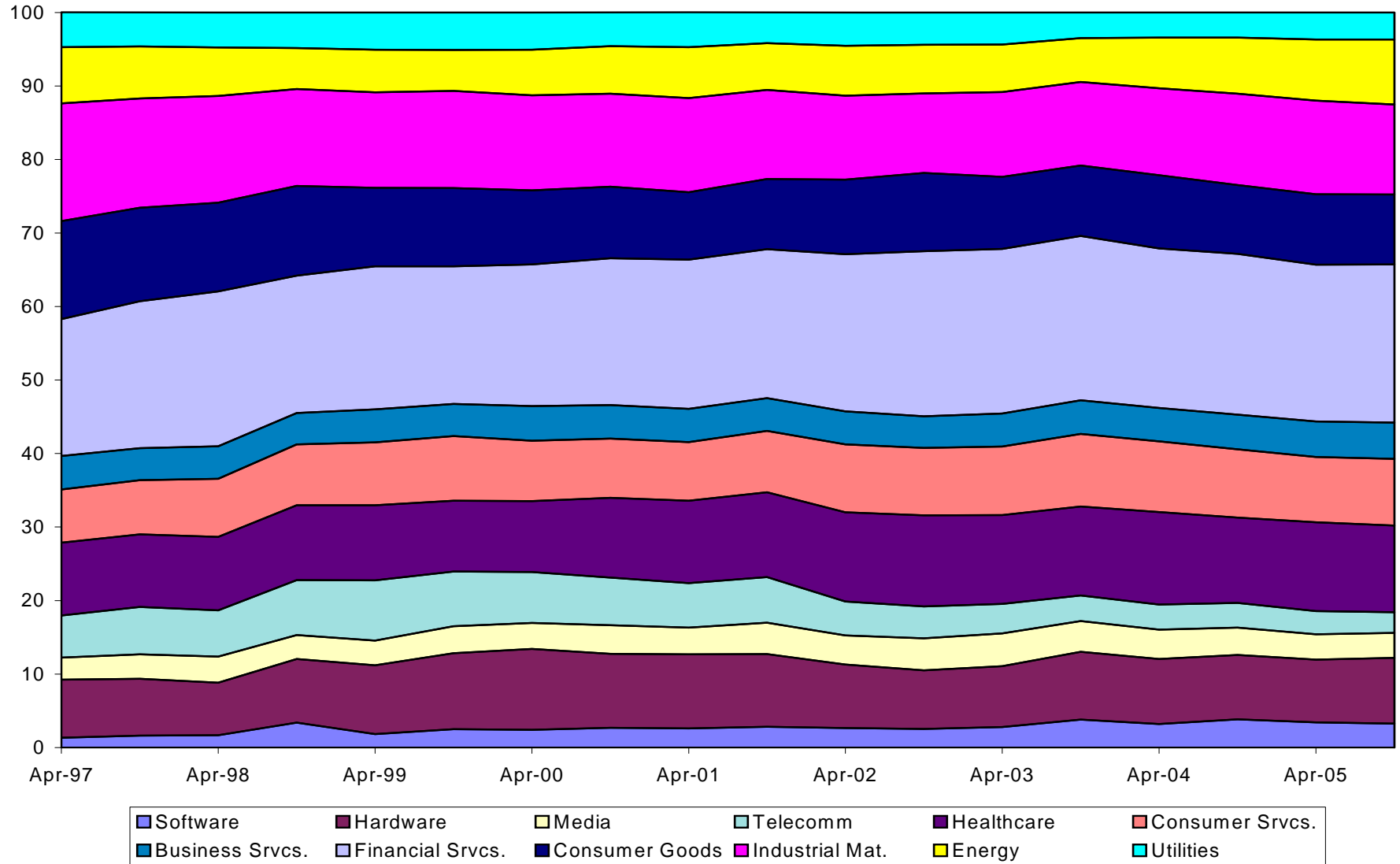
## Weighting Schemes and Sector Diversification

- ▶ Lesson from technology bubble: sector diversification is essential
- ▶ Investors have had mixed experience using market-cap weighted indexes
- ▶ Market-cap weighting tends to maximize exposure to overpriced stocks during bubbles
- ▶ Need a weighting methodology that helps avoid extremes during bubbles

# Sector Distribution Using Market Weighting



# Sector Distribution Using Collared Weighting



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## Collared Weighting Scheme

- ▶ Better risk-return profile than market weighting
- ▶ Less turnover than fundamental weighting
  - ▶ Low portfolio transaction costs and potential for greater tax efficiency
- ▶ More macro consistent than fundamental weighting
- ▶ Risk controlled rather than momentum influenced
  - ▶ Limits overexposure to stocks that are overpriced during bubbles
  - ▶ Performance & risk that investors can live with
- ▶ Mitigates the extremes without portfolio insurance