



**Bank of America Merrill Lynch**  
**Institutional Retirement, Philanthropy & Investments**

**The Value of Value**

***Presented to:***  
***Arkansas CFA Society***

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# Mandatory Disclosures – the "Blather at the Bottom"

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*And might I add...*

There are no guarantees in life, including investments.

Do not try investing without adult supervision.

Do not run with scissors.

Act with loyalty, prudence and diligence in conducting your client's affairs.

Reflect credit on your industry.

***Enjoy your lunch. Thanks for having me here today.***

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# Overview – Some Questions to Consider

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- How do we define value? Does it matter?
- What is the evidence for a persistent “value premium?”
- Why should this exist ... and persist?
- What are the risks and returns of a value approach vs a growth approach?
- Can we observe a global value effect?
- Will investors (and firm management) accept a value approach?

## How Do We Define "Value" vs "Growth?"

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- Typical approach: quantitative approach using valuation multiples
  - Combine valuation multiples with other company characteristics
  - Arbitrary formulas form aggregate measures of growth or value
    - Eg. Morningstar uses 50% forward looking + 50% backward looking
- Each vendor's approach and results are different:
  - Russell: 1/3 pure growth + 1/3 pure value ... + 1/3 split of names split between both growth and value indexes
    - Multicollinearity problem = overlapping inputs.  
Sharpe says it's a "no-no!"  
(Frankly, it's more of a theoretical than a practical problem.)
  - Surz and Morningstar: Pure Growth, Pure Core and Pure Value.
    - Core behaves differently than "value + growth blend."

### Three recent papers on value investing:

- "Clairvoyant Value II – The Growth/Value Cycle"
- "Clairvoyant Value and the Value Effect"
- "Clairvoyant Value and the Value-Growth Cycle:  
Arnett, Li and Sherrerd, Journal of Portfolio Management,  
Vol. 35, No. 3, 4, 5

## Do These Differences in Style Classification Matter?

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- **Yes** – in the *short run*
  - Style analysis (Returns-Based)
  - Performance attribution
  
- **No** – in the *long run*
  - Investment strategy
  - Return and risk expectations

## Annual Returns: Fama-French data from Ibbotson Associates

|        | Small Growth | Small Value | Large Growth | Large Value |
|--------|--------------|-------------|--------------|-------------|
| Dec-28 | 34.86        | 40.96       | 48.05        | 23.63       |
| Dec-29 | -44.23       | -35.77      | -21.07       | -3.93       |
| Dec-30 | -35.85       | -46.38      | -26.44       | -43.16      |
| Dec-31 | -42.70       | -51.87      | -36.96       | -58.24      |
| Dec-32 | -5.25        | 1.35        | -7.93        | -3.26       |
| Dec-33 | 159.41       | 118.69      | 44.65        | 116.91      |
| Dec-34 | 35.89        | 8.51        | 11.06        | -21.51      |
| Dec-35 | 48.34        | 53.16       | 42.22        | 51.14       |
| Dec-36 | 37.10        | 73.19       | 26.46        | 48.12       |
| Dec-37 | -48.64       | -51.47      | -34.12       | -41.07      |
| Dec-38 | 43.81        | 26.21       | 33.20        | 25.20       |
| Dec-39 | 10.72        | -3.55       | 7.73         | -12.51      |
| Dec-40 | 0.57         | -9.83       | -9.81        | -2.62       |
| Dec-41 | -17.34       | -4.82       | -12.67       | -0.88       |
| Dec-42 | 16.76        | 35.00       | 13.17        | 33.71       |
| Dec-43 | 45.08        | 91.82       | 22.04        | 44.02       |
| Dec-44 | 41.23        | 49.71       | 16.11        | 41.98       |
| Dec-45 | 64.28        | 74.61       | 31.95        | 49.06       |
| Dec-46 | -12.40       | -7.36       | -8.29        | -8.29       |
| Dec-47 | -8.38        | 5.34        | 4.10         | 8.66        |
| Dec-48 | -7.16        | -2.30       | 3.35         | 5.09        |
| Dec-49 | 23.52        | 21.04       | 23.31        | 18.71       |
| Dec-50 | 31.01        | 52.16       | 23.11        | 55.22       |
| Dec-51 | 16.26        | 12.27       | 20.05        | 14.36       |
| Dec-52 | 8.55         | 8.59        | 13.38        | 19.54       |
| Dec-53 | -0.68        | -6.92       | 2.29         | -7.04       |
| Dec-54 | 43.20        | 63.43       | 47.79        | 77.32       |
| Dec-55 | 13.95        | 23.47       | 28.50        | 29.78       |
| Dec-56 | 7.65         | 5.98        | 6.52         | 3.37        |
| Dec-57 | -16.99       | -15.90      | -9.14        | -22.72      |
| Dec-58 | 75.22        | 69.67       | 41.62        | 72.30       |
| Dec-59 | 21.42        | 17.42       | 13.15        | 18.82       |

|        | Small Growth | Small Value | Large Growth | Large Value |
|--------|--------------|-------------|--------------|-------------|
| Dec-60 | -1.78        | -6.02       | -2.36        | -8.56       |
| Dec-61 | 22.20        | 30.85       | 26.43        | 28.89       |
| Dec-62 | -22.33       | -9.47       | -10.89       | -3.09       |
| Dec-63 | 7.98         | 28.34       | 21.88        | 32.35       |
| Dec-64 | 8.13         | 22.90       | 14.48        | 19.16       |
| Dec-65 | 39.99        | 42.50       | 13.36        | 22.42       |
| Dec-66 | -5.32        | -7.76       | -10.77       | -10.21      |
| Dec-67 | 88.42        | 67.55       | 29.17        | 31.74       |
| Dec-68 | 32.73        | 45.81       | 4.03         | 27.08       |
| Dec-69 | -23.68       | -25.84      | 2.88         | -16.39      |
| Dec-70 | -20.25       | 6.62        | -5.65        | 10.63       |
| Dec-71 | 25.86        | 14.47       | 23.94        | 12.55       |
| Dec-72 | 0.39         | 7.28        | 21.32        | 18.62       |
| Dec-73 | -45.07       | -27.23      | -21.79       | -3.67       |
| Dec-74 | -31.90       | -19.02      | -29.24       | -23.40      |
| Dec-75 | 61.32        | 57.12       | 34.44        | 55.90       |
| Dec-76 | 38.20        | 59.13       | 17.54        | 44.62       |
| Dec-77 | 19.35        | 23.82       | -9.46        | 1.64        |
| Dec-78 | 17.65        | 22.12       | 7.00         | 3.48        |
| Dec-79 | 48.84        | 38.33       | 16.59        | 22.67       |
| Dec-80 | 52.66        | 22.28       | 35.20        | 16.45       |
| Dec-81 | -11.53       | 17.68       | -7.13        | 12.80       |
| Dec-82 | 19.72        | 39.86       | 21.48        | 27.67       |
| Dec-83 | 22.12        | 47.58       | 14.67        | 26.92       |
| Dec-84 | -12.84       | 7.52        | -0.72        | 16.17       |
| Dec-85 | 28.91        | 32.12       | 32.64        | 31.75       |
| Dec-86 | 1.95         | 14.50       | 14.38        | 21.82       |
| Dec-87 | -12.24       | -7.12       | 7.43         | -2.76       |
| Dec-88 | 16.63        | 30.76       | 12.53        | 25.96       |
| Dec-89 | 20.58        | 15.70       | 36.11        | 29.70       |

|        | Small Growth | Small Value | Large Growth | Large Value |
|--------|--------------|-------------|--------------|-------------|
| Dec-90 | -17.74       | -25.13      | 1.06         | -12.75      |
| Dec-91 | 54.73        | 40.56       | 43.33        | 27.35       |
| Dec-92 | 5.82         | 34.76       | 6.41         | 23.57       |
| Dec-93 | 12.64        | 29.41       | 2.38         | 19.51       |
| Dec-94 | -4.36        | 3.21        | 1.95         | -5.78       |
| Dec-95 | 35.13        | 27.69       | 37.16        | 37.68       |
| Dec-96 | 12.36        | 20.71       | 21.25        | 13.35       |
| Dec-97 | 15.29        | 37.29       | 31.61        | 31.88       |
| Dec-98 | 3.04         | -8.63       | 34.64        | 16.23       |
| Dec-99 | 54.75        | 5.59        | 29.43        | -0.22       |
| Dec-00 | -24.15       | -0.80       | -13.63       | 5.80        |
| Dec-01 | 0.16         | 40.24       | -15.59       | -1.18       |
| Dec-02 | -30.87       | -12.41      | -21.50       | -32.53      |
| Dec-03 | 53.20        | 74.69       | 26.29        | 35.07       |
| Dec-04 | 12.54        | 26.59       | 6.53         | 18.91       |
| Dec-05 | 5.45         | 3.53        | 2.82         | 12.17       |
| Dec-06 | 11.67        | 21.76       | 8.88         | 22.61       |
| Dec-07 | 7.36         | -15.21      | 14.08        | -6.45       |
| Dec-08 | -41.56       | -44.39      | -33.71       | -48.02      |
| Dec-09 | 34.45        | 70.54       | 27.91        | 39.15       |
| Dec-10 | 31.28        | 30.55       | 16.59        | 13.89       |

*This presentation also uses:*

- *Monthly Fama-French series*
- *Surz Style-Pure series*

## Let's Investigate Some Common Opinions on Value vs Growth

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- Value and Growth have similar returns over the long term
  - Value and Growth move in and out of favor – it's a cycle
- Growth has a higher Sharpe Ratio than Value
  - This is sometimes used as basis for Capital Markets Expectations (CMA)
  - This drives higher expected returns for growth using “build up” method
- Equity strategies should be neutral on value vs growth
  - Markets are efficient
  - Tracking error vs benchmarks is always bad

→ ***What does the data tell us?***

## Results from 80+ years of Fama-French Market Data

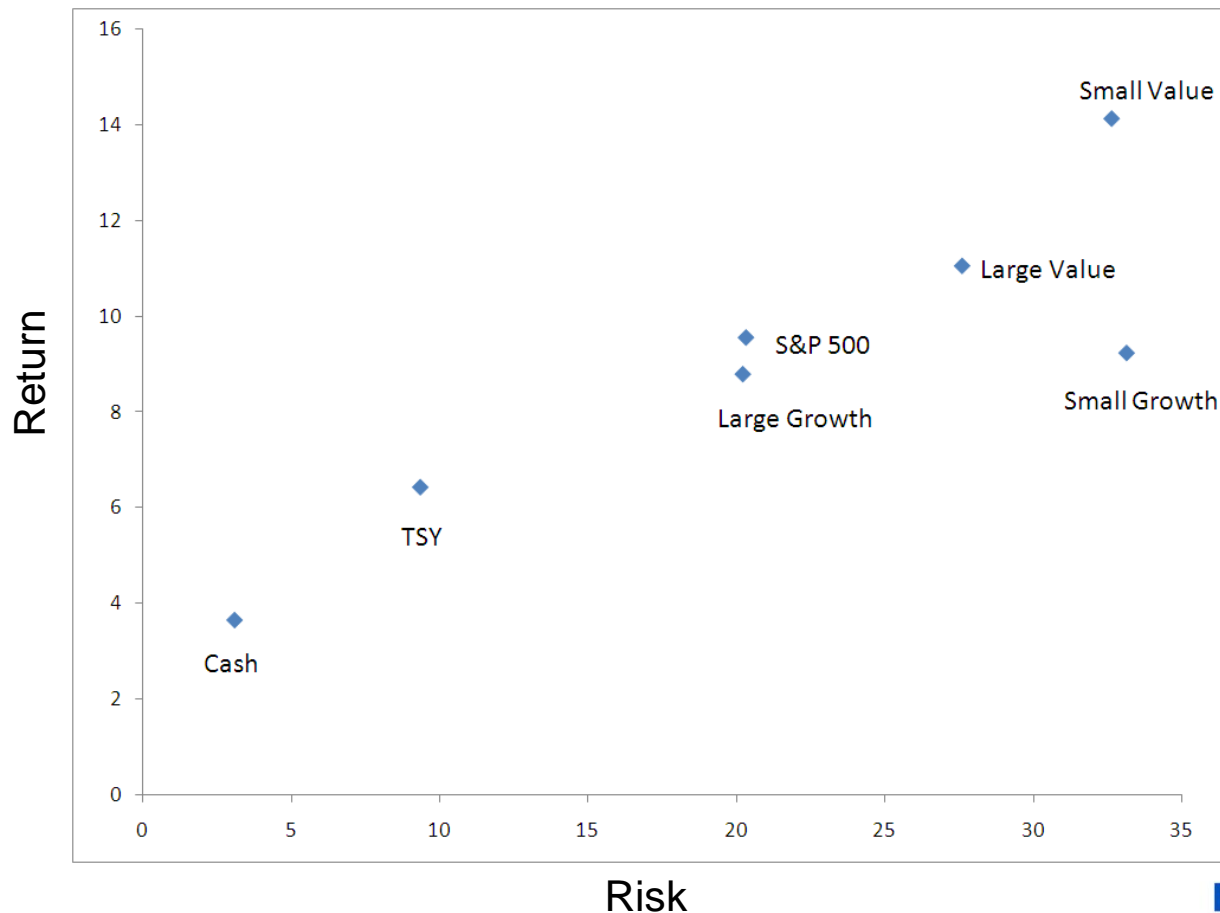
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- Value is *more likely to outperform* growth, and ...
- Value outperformed growth by a significantly *greater margin* than when growth beat value
- “Value premium” was more pronounced as you move down in size
- “Small premium” was only observed in Value
- Growth tended to outperform at periods of market overvaluation
  - Great Depression
  - Tech Bubble
  - Housing/Leverage Bubble
- Value reflected a higher Sharpe Ratio than Growth
- Higher Large Value volatility was driven by greater “upside”
- Small Growth reflected highest volatility with lowest return

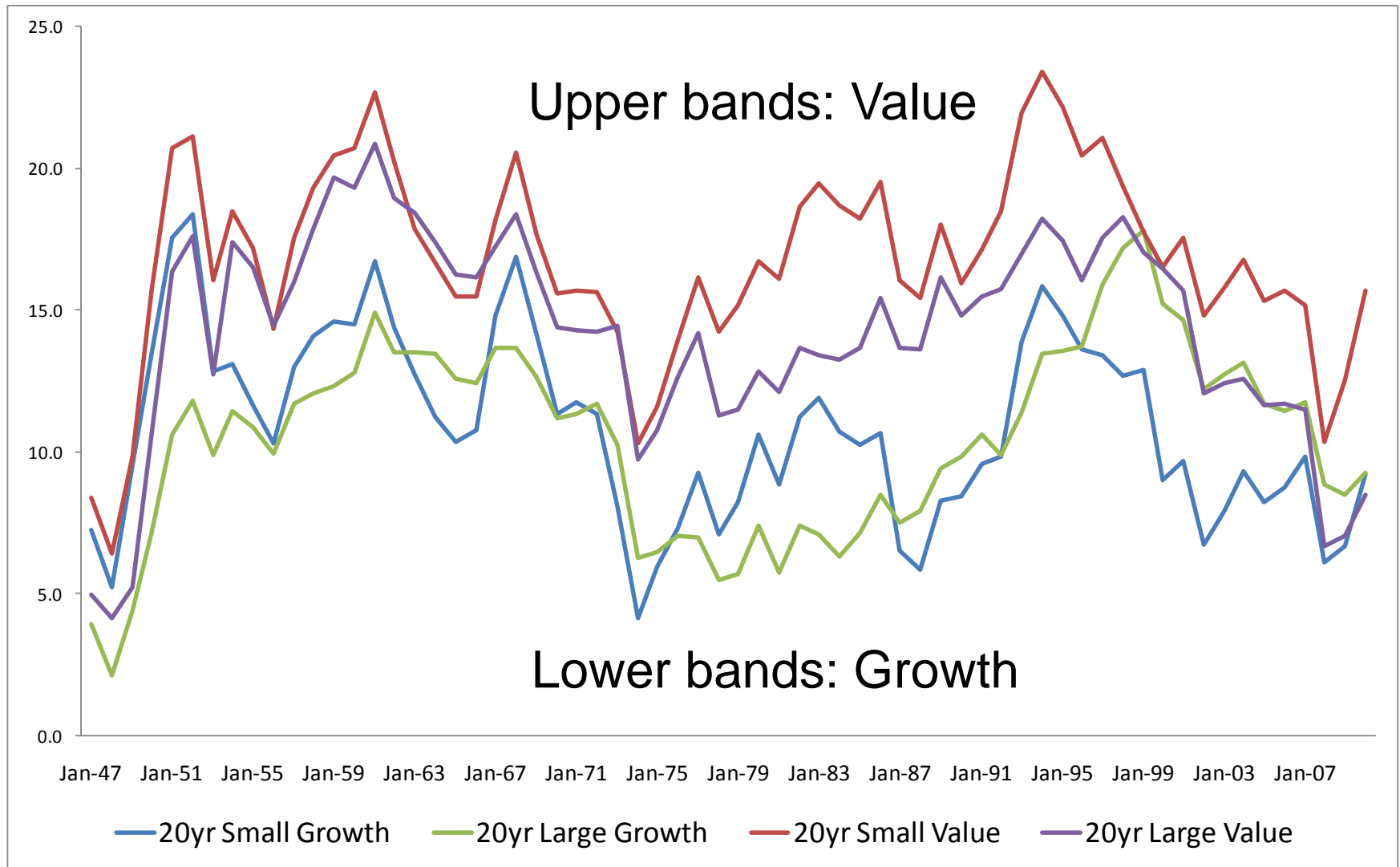


# Market Style Sectors: Return vs Risk Results (Ibbotson and Fama-French Data from 1928 – 2010)

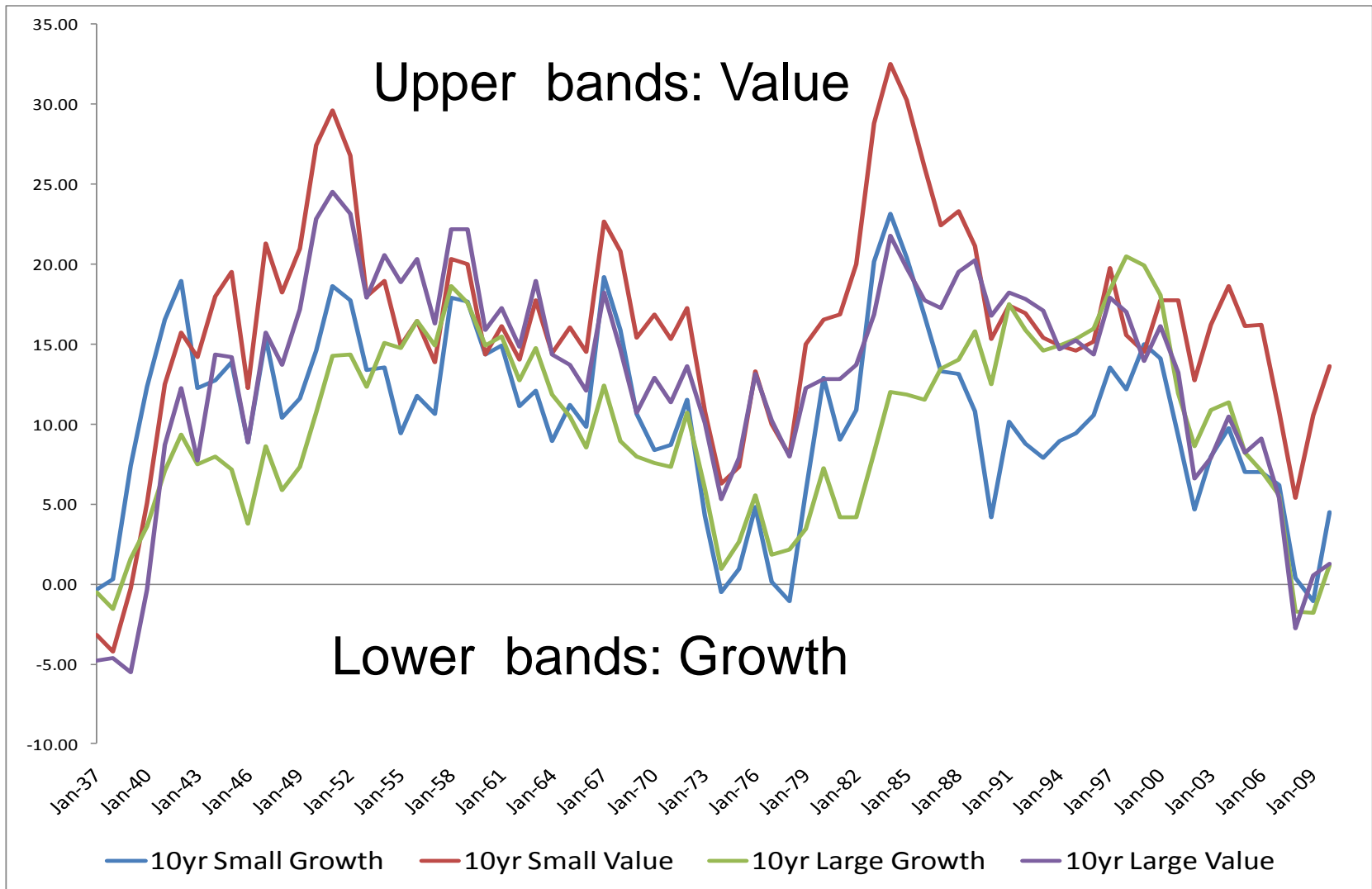
|              | <u>Small<br/>Growth</u> | <u>Small<br/>Value</u> | <u>Large<br/>Growth</u> | <u>Large<br/>Value</u> |
|--------------|-------------------------|------------------------|-------------------------|------------------------|
| Return       | 9.23                    | 14.12                  | 8.79                    | 11.05                  |
| Risk         | 33.14                   | 32.63                  | 20.21                   | 27.59                  |
| Sharpe Ratio | 0.17                    | 0.32                   | 0.25                    | 0.27                   |



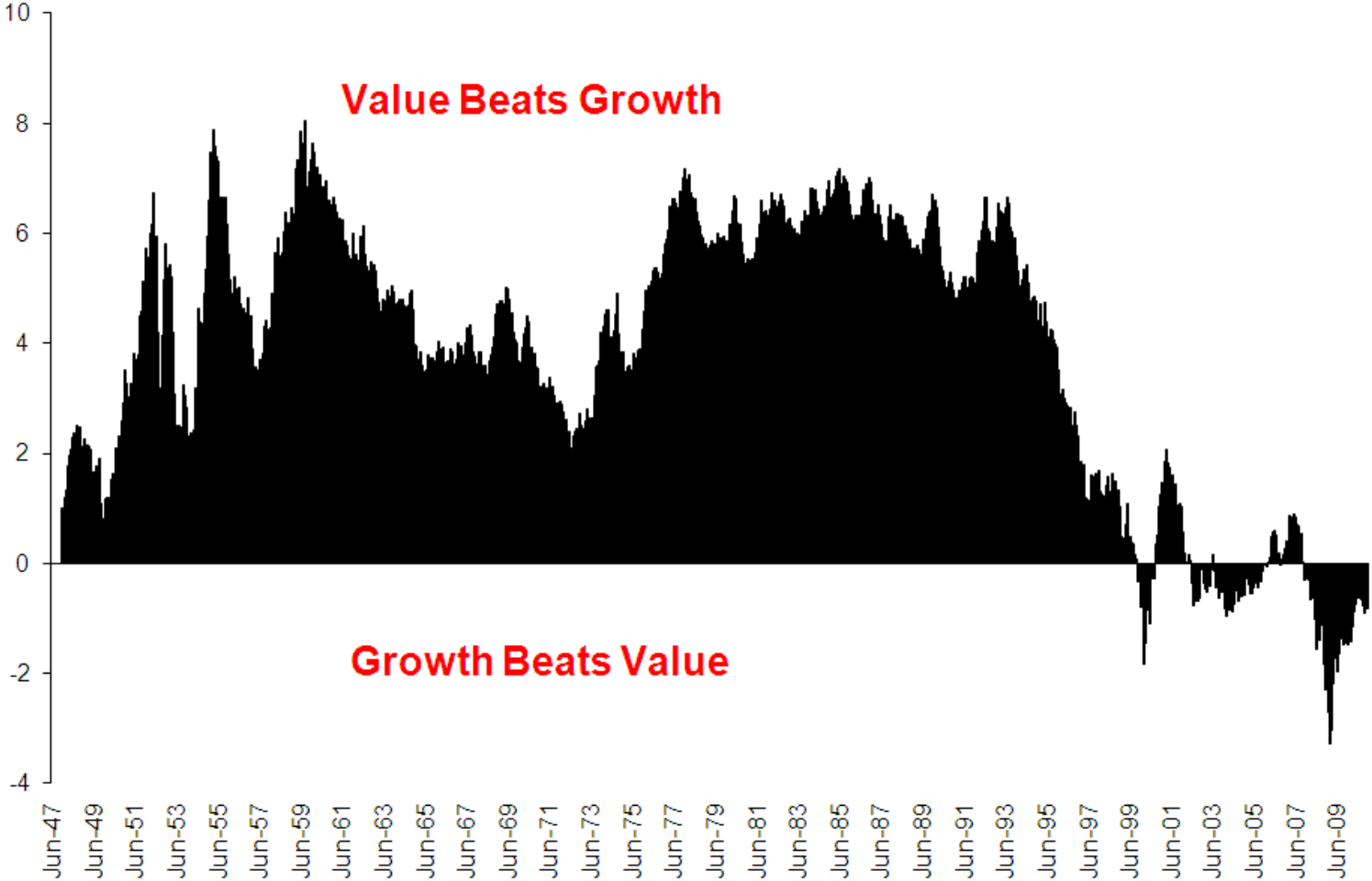
# 20-Year Rolling Returns (Calculated from Annual Returns 1928 – 2010)



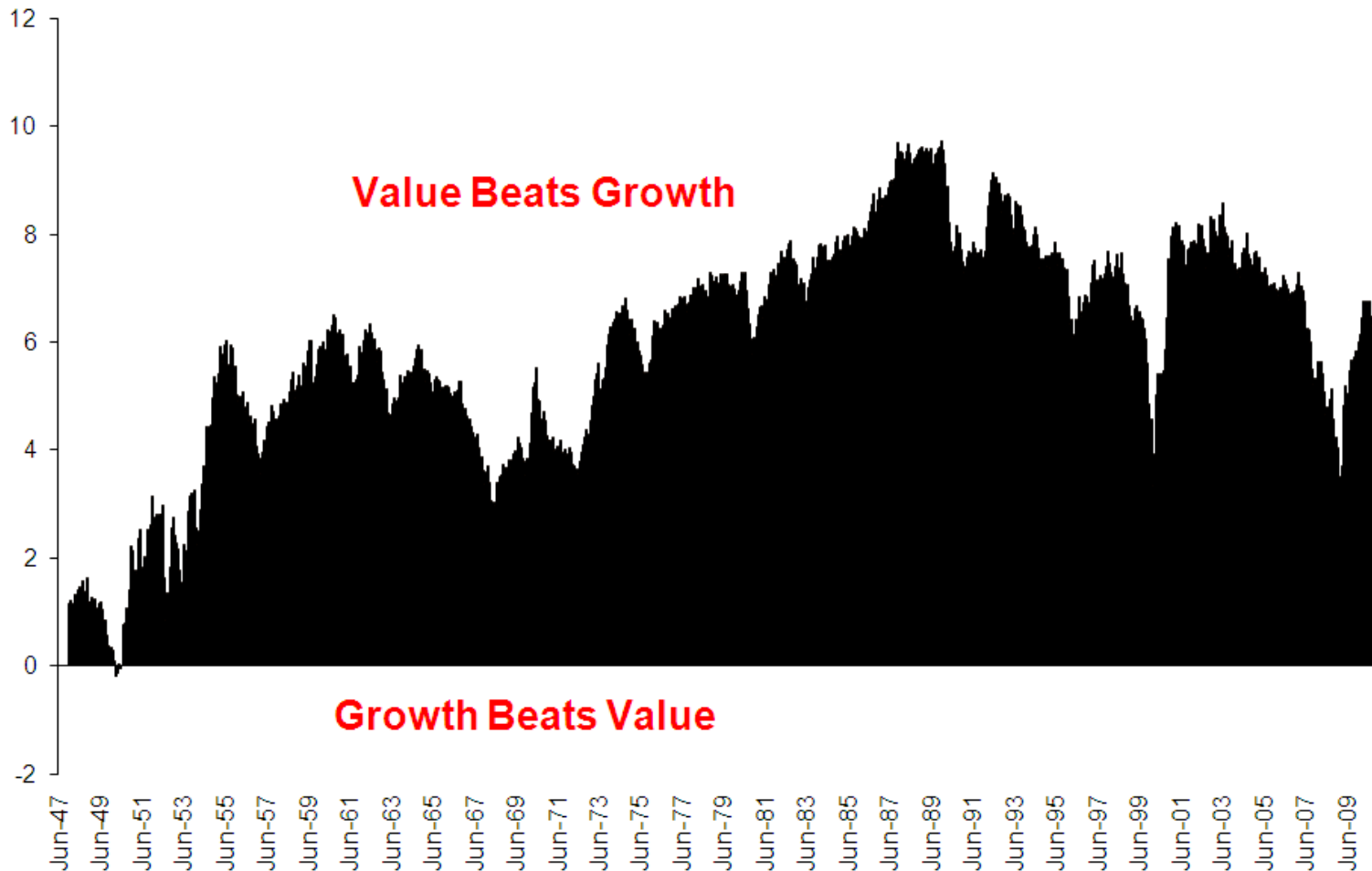
# 10-Year Rolling Returns (Calculated from Annual Returns 1928 – 2010)



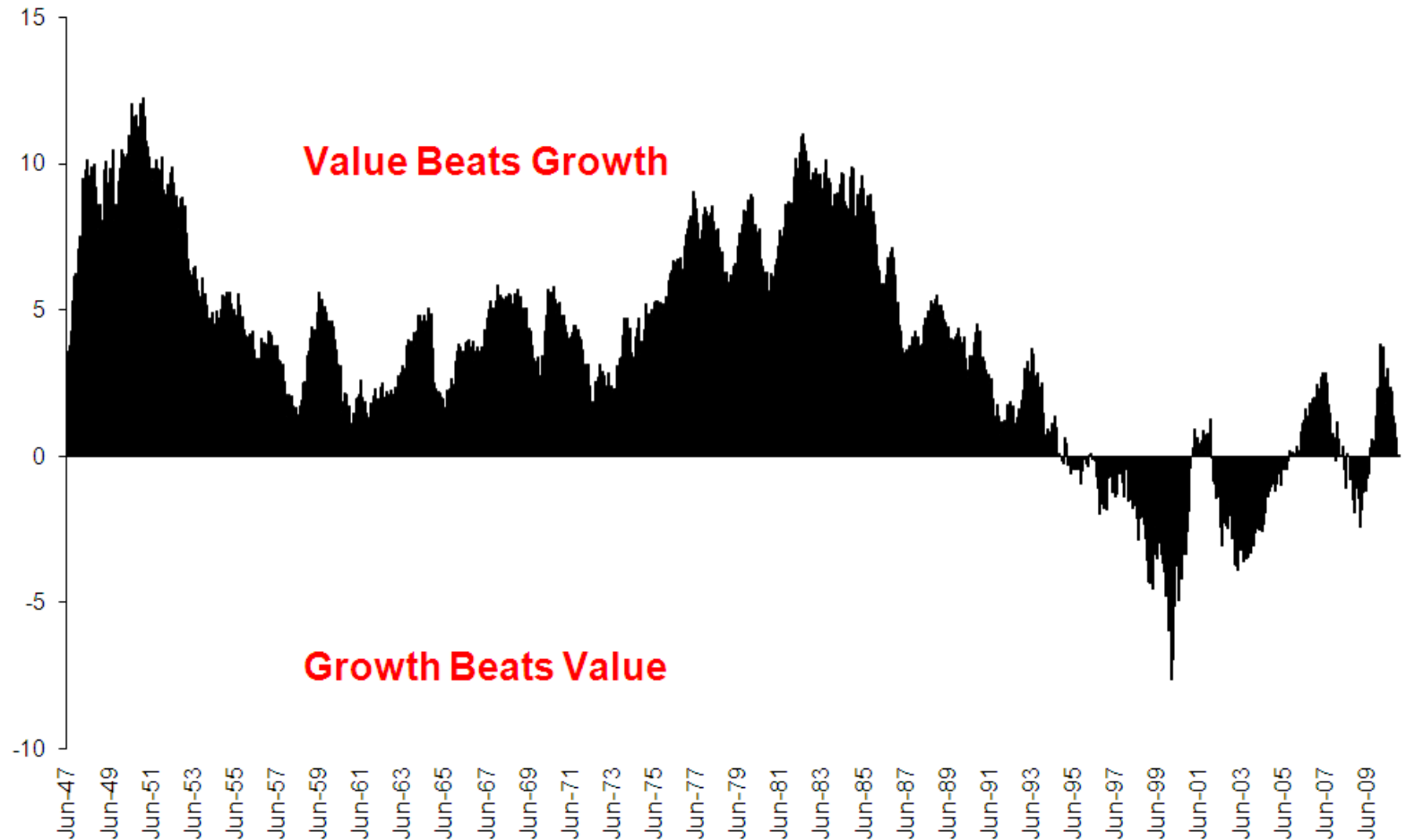
**Trend of 20-Year Large Value Minus Large Growth Returns  
Calculated from Monthly Returns (1927 - 2010)**



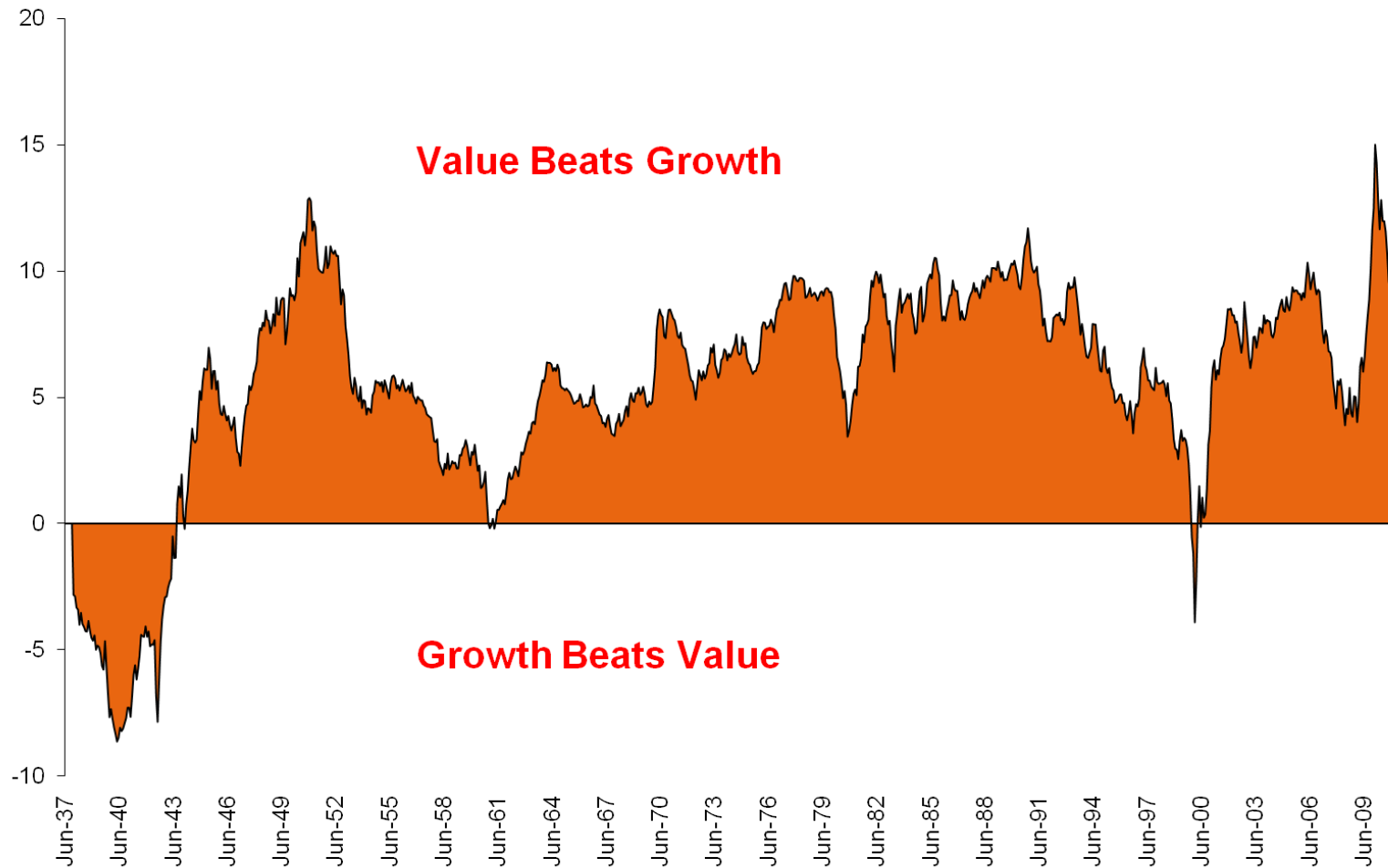
## Trend of 20-Year Small Value Minus Small Growth Returns Calculated from Monthly Returns (1927 - 2010)



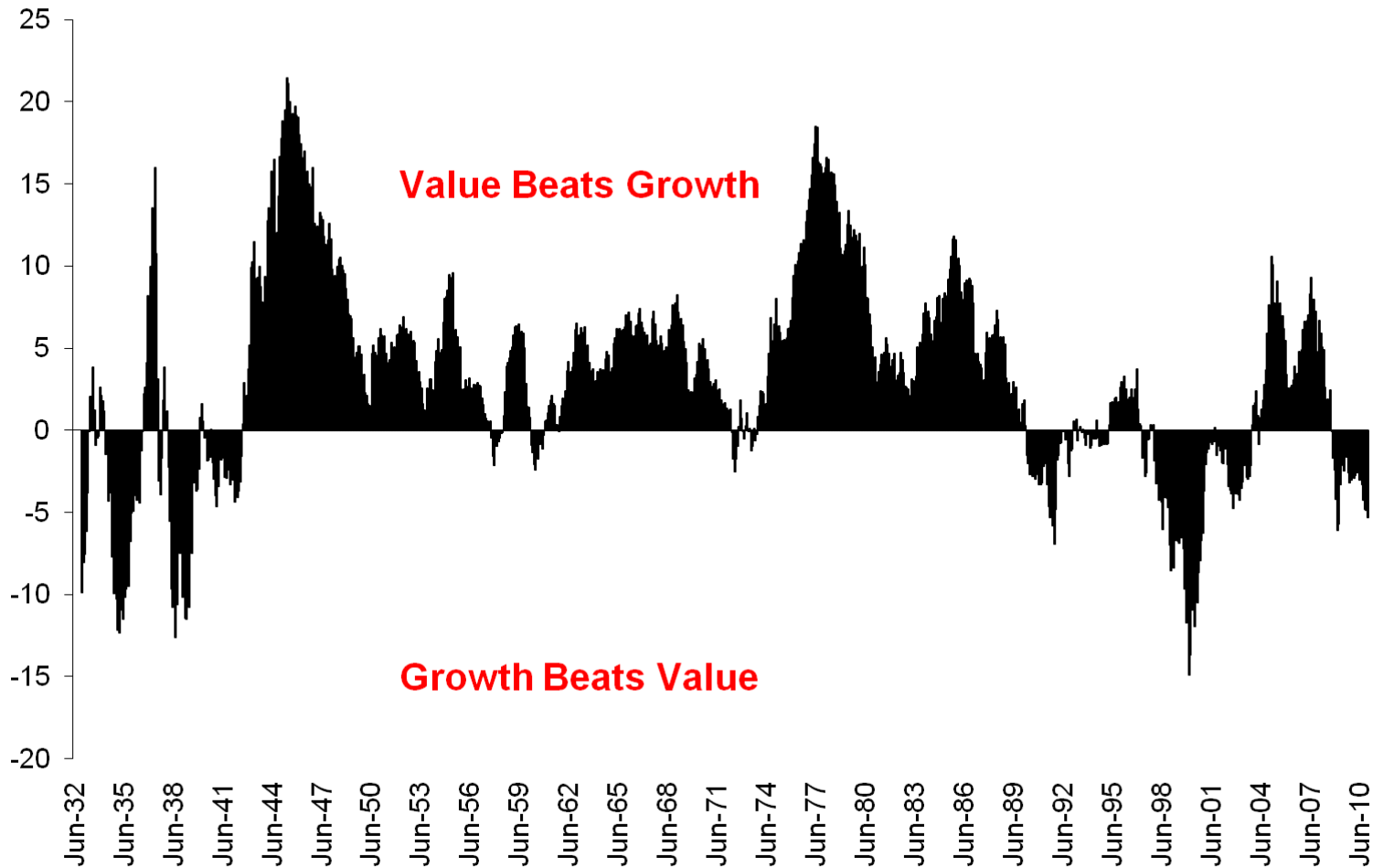
## 10 Year Large Value Minus Large Growth Returns (1927 - 2010)



## Trend of 10 Year Small Value Minus Small Growth Returns Calculated from Monthly Returns 1927 - 2010

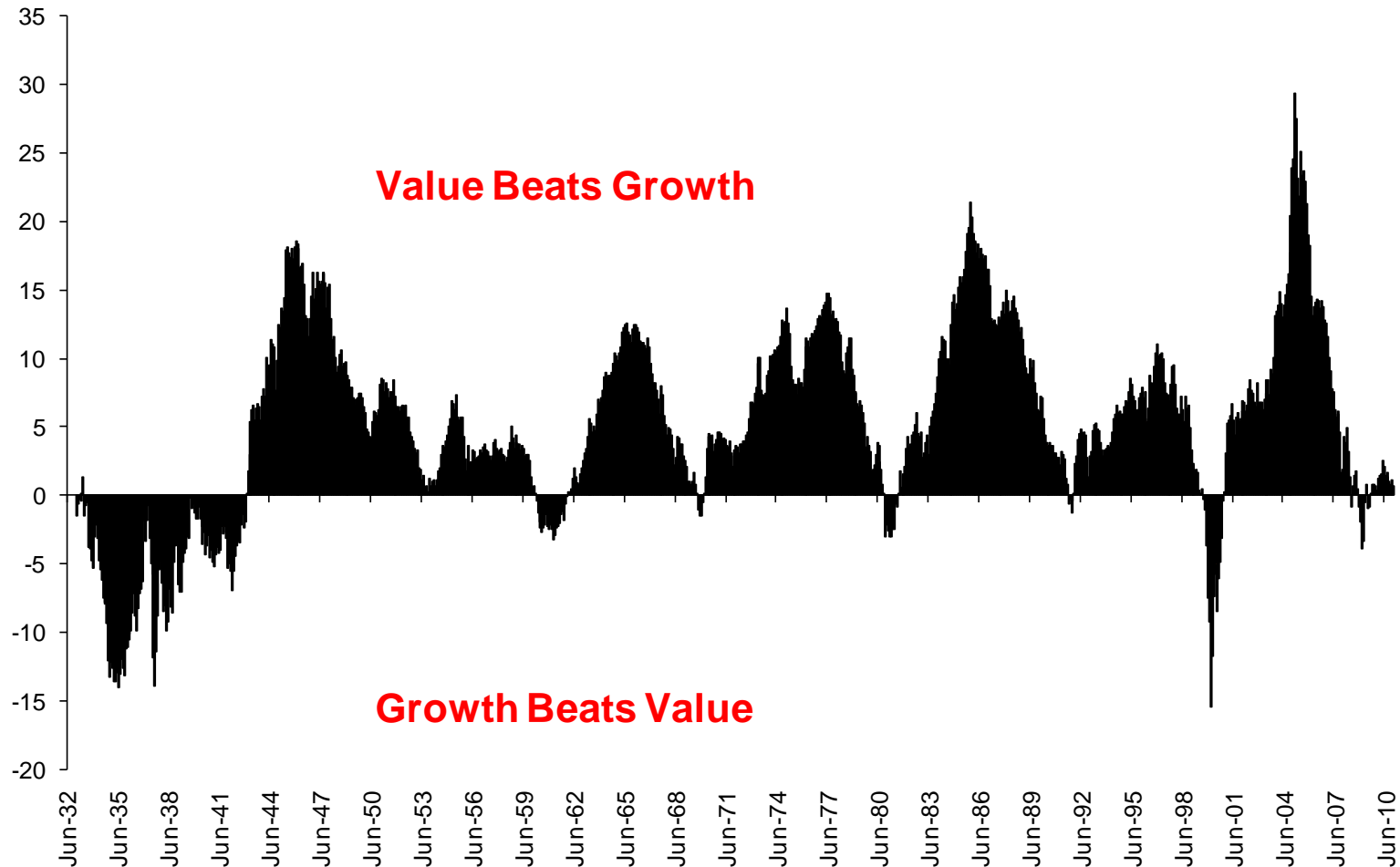


## Trend of 5 Year Large Value Minus Large Growth Returns Calculated from Monthly Returns 1927 - 2010

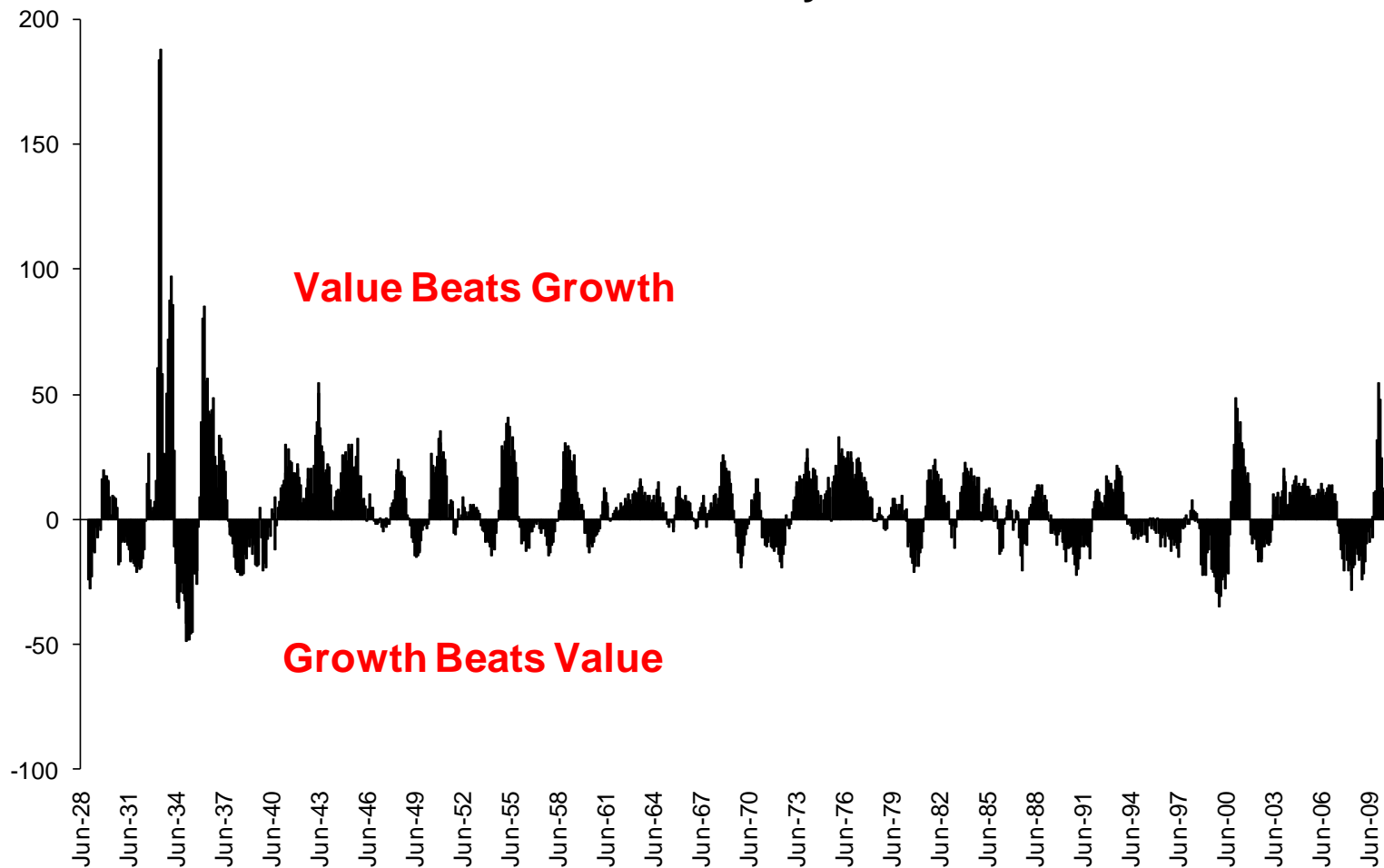




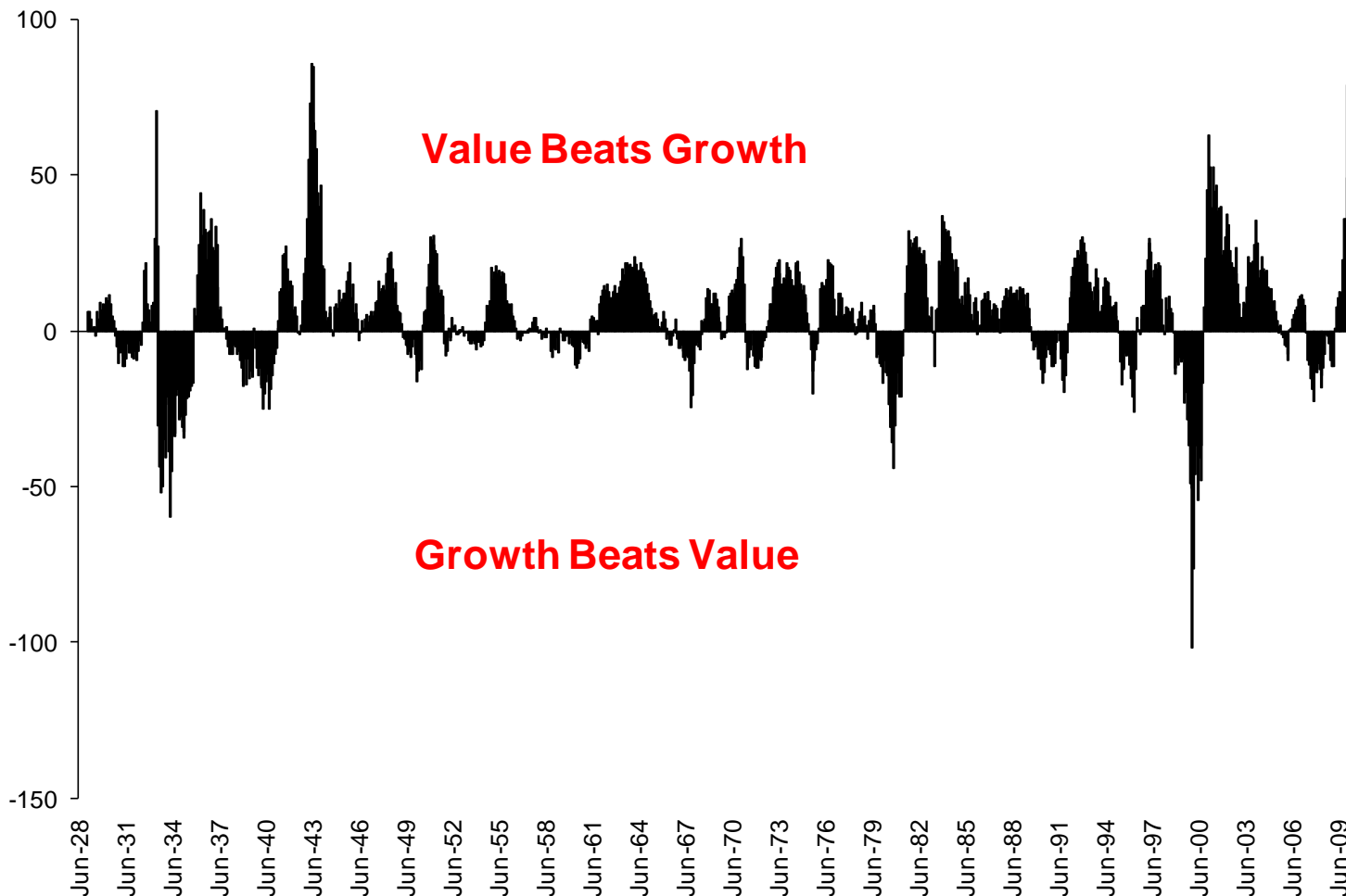
## Trend of 5 Year Small Value Minus Small Growth Returns Calculated from 1927 - 2010



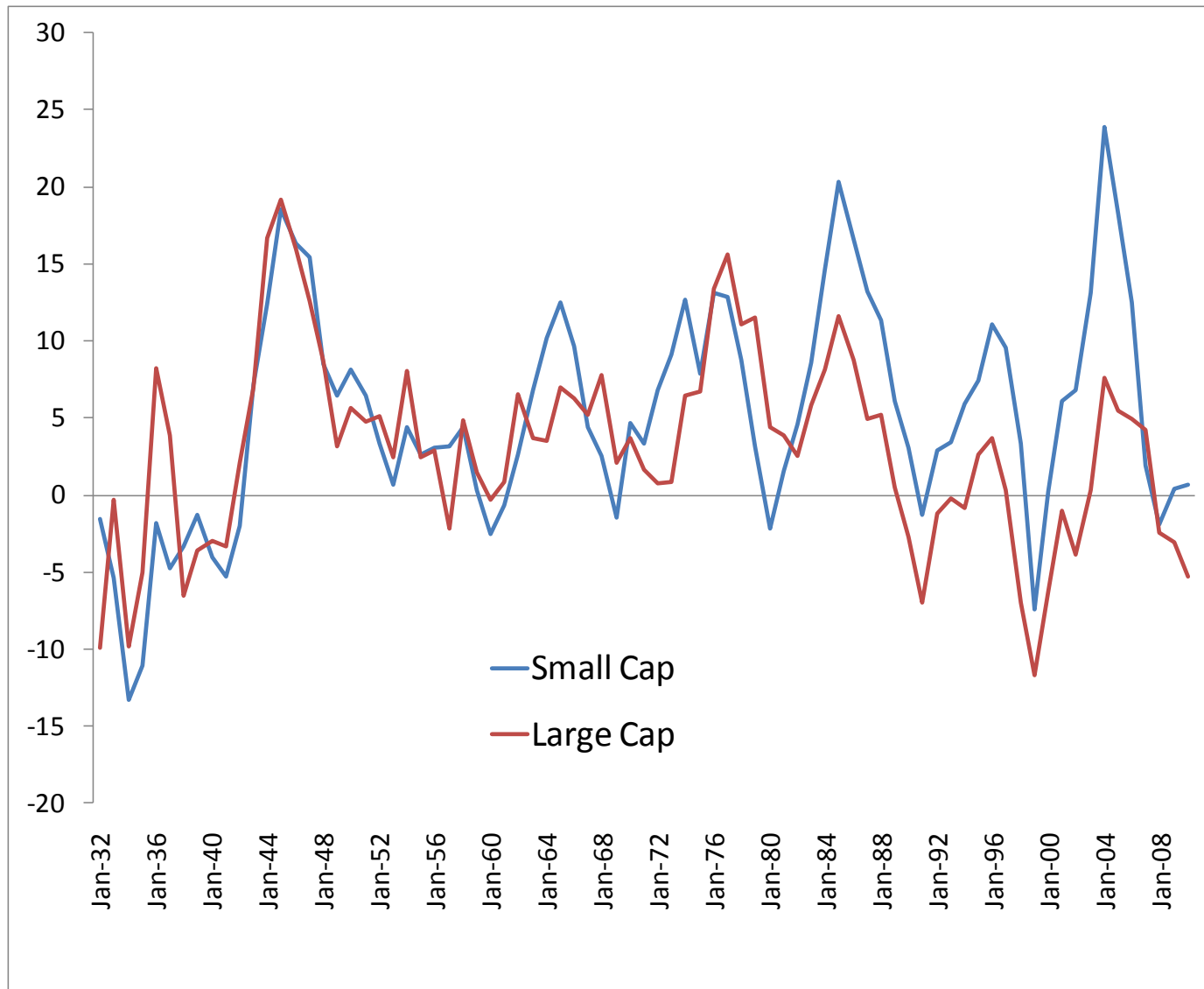
## Trend of 1 Year Large Value Minus Large Growth Returns Calculated from Monthly Returns 1927 - 2010



## Trend of 1 Year Small Value Minus Small Growth Returns Calculated from Monthly Returns 1927 - 2010

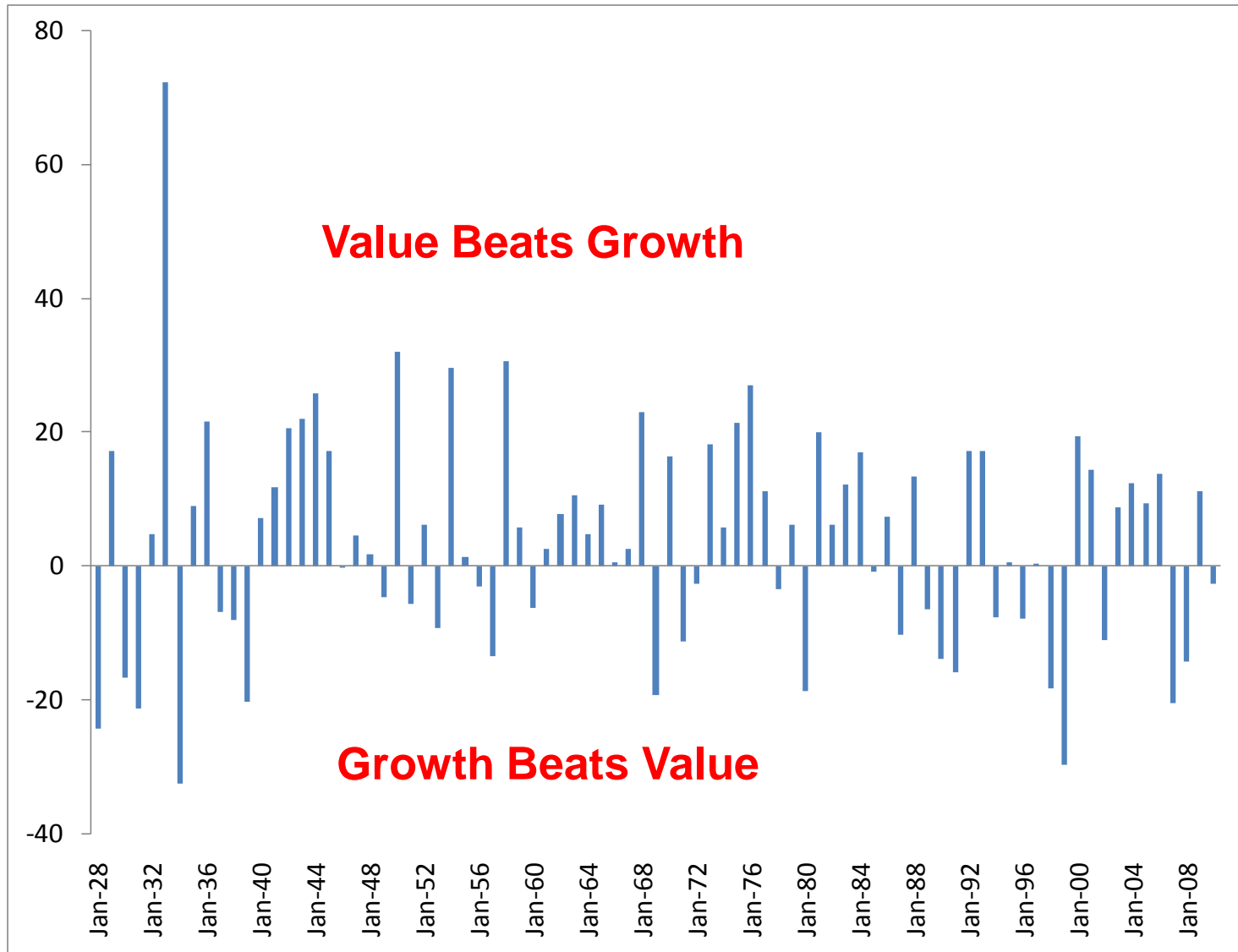


## 5-Year Rolling Value Minus Growth Differentials (Calculated Using Annual Data 1928 - 2010)

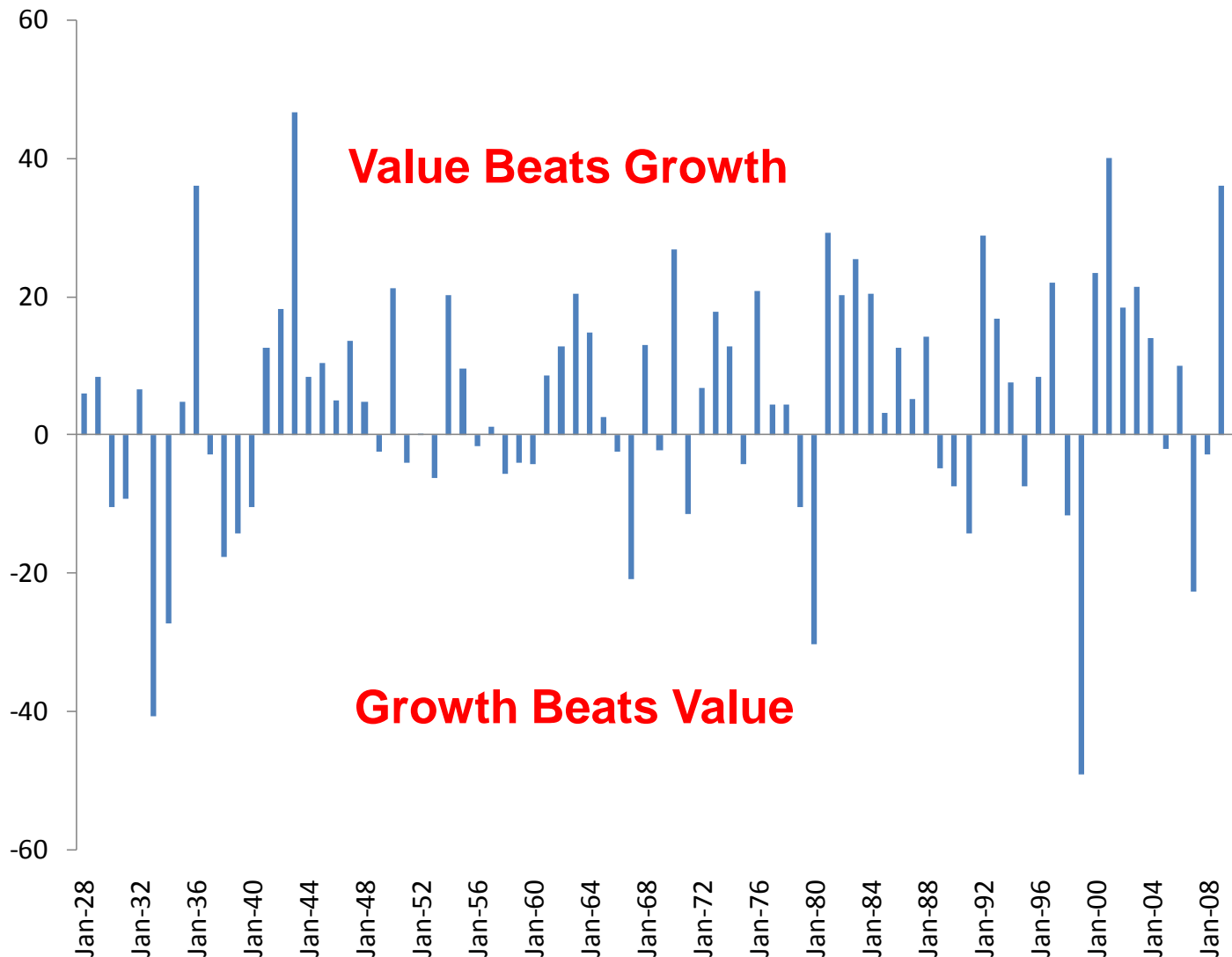


# Return Differentials by Calendar Year (1928 – 2010)

## Large Value Minus Large Growth



# Return Differentials by Calendar Year (1928 – 2010) Small Value Minus Small Growth



# Examining the Pattern of Relative Performance and Volatility

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## Relative Performance Results Using Monthly Data (1928 – 2010)

- Value Beat Growth **More Often** over every time period (1mo – 20 years)
- Value Beat Growth **by a Wider Margin** than when Growth beats Value
- Small premium increased this effect

|         | Likelihood Large<br>Value Beats Large<br>Growth | Average<br>Outperformance Large<br>Value Over Large<br>Growth | Average<br>Outperformance Large<br>Growth Over Large<br>Value |
|---------|---|---|---|
| 1 month | 51.5%   | 2.98  | 2.59  |
| 1 year  | 58.5%   | 14.98   | 10.67   |
| 5 year  | 71.8%   | 6.04  | 3.77  |
| 10 year | 78.5%   | 5.17  | 2.03  |
| 20 year | 90.2%   | 4.45  | 0.75  |

|         | Likelihood Small<br>Value Beats Small<br>Growth | Average<br>Outperformance Small<br>Value Over Small<br>Growth | Average<br>Outperformance Small<br>Growth Over Small<br>Value |
|---------|---|---|---|
| 1 month | 54.1%   | 2.76  | 2.38  |
| 1 year  | 63.0%   | 14.29   | 11.33   |
| 5 year  | 80.3%   | 7.75  | 4.71  |
| 10 year | 90.9%   | 6.54  | 4.66  |
| 20 year | 99.6%   | 5.99  | 0.13  |



## Relative Performance Results Using Annual Data (1928 – 2010)

- Results (using annual data) were consistent with those derived from monthly data

|         | Likelihood Large<br>Value Beats Large<br>Growth | Average<br>Outperformance Large<br>Value Over Large<br>Growth | Average<br>Outperformance Large<br>Growth Over Large<br>Value |
|---------|---|---|---|
| 1 year  | 61.4%   | 13.88   | 12.12   |
| 5 year  | 70.9%   | 5.98  | 4.19  |
| 10 year | 78.4%   | 4.88  | 2.45  |
| 20 year | 85.9%   | 4.50  | 0.73  |

|         | Likelihood Small<br>Value Beats Small<br>Growth | Average<br>Outperformance Small<br>Value over Small<br>Growth | Average<br>Outperformance Small<br>Growth over Small<br>Value |
|---------|---|---|---|
| 1 year  | 61.4%   | 15.26   | 11.43   |
| 5 year  | 77.2%   | 7.87  | 3.95  |
| 10 year | 90.5%   | 6.69  | 4.31  |
| 20 year | 100.0%  | 5.96  | NA  |

# Upside / Downside Volatility for Large Value vs Large Growth (1928 – 2010)

- Higher volatility in Value driven by significantly **higher average gains** – *greater upside volatility*
- Result: Higher Large Value upside volatility produced higher risk-adjusted expected returns

|         | Likelihood of<br>Large Value Gain | Average Gain<br>Large Value | Average Loss<br>Large Value | Expected Return<br>of Large Value |
|---------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------------|
| 1 year  | 68.7%                             | 28.33                       | -15.39                      | 14.64                             |
| 5 year  | 87.3%                             | 15.38                       | -7.61                       | 12.47                             |
| 10 year | 93.2%                             | 14.37                       | -3.61                       | 13.15                             |
| 20 year | 100.0%                            | 14.25                       | NA                          | 14.25                             |

|         | Likelihood of<br>Large Growth<br>Gain | Average Gain<br>Large Growth | Average Loss<br>Large Growth | Expected Return<br>of Large Growth | Value Minus<br>Growth |
|---------|---------------------------------------|------------------------------|------------------------------|------------------------------------|-----------------------|
| 1 year  | 73.5%                                 | 20.39                        | -15.86                       | 10.78                              | 3.86                  |
| 5 year  | 86.1%                                 | 11.85                        | -5.35                        | 9.46                               | 3.02                  |
| 10 year | 94.6%                                 | 10.50                        | -1.39                        | 9.86                               | 3.29                  |
| 20 year | 100.0%                                | 10.48                        | 10.48                        | 10.48                              | 3.76                  |

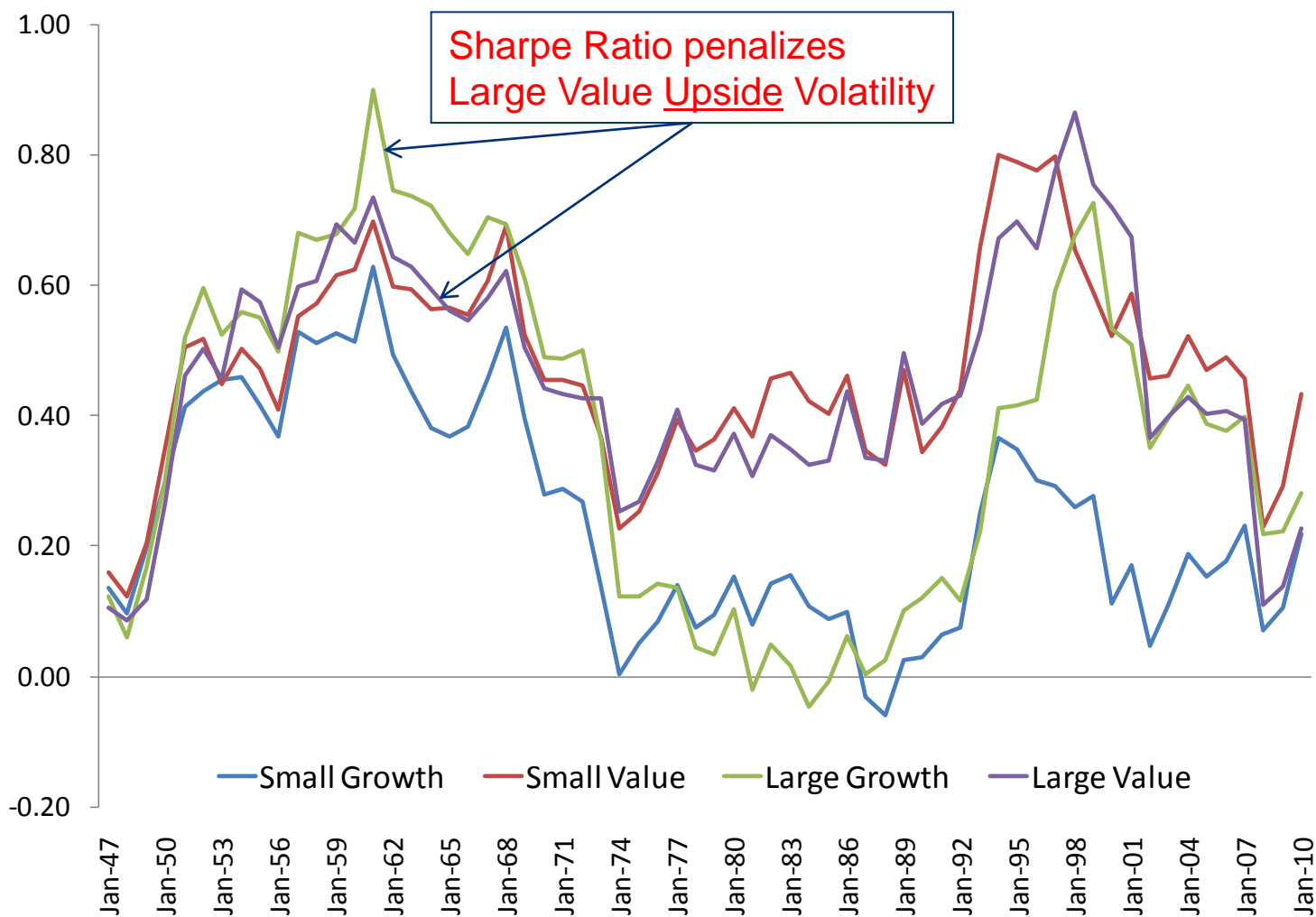
# Upside / Downside Volatility for Small Value vs Small Growth (1928 – 2010)

- Like Large Cap, Small Value reflected **significantly larger gains** than Small Growth
- Unlike Large Cap, Small Value reflected **slightly higher likelihood of gains** than Small Growth
- Result: Substantially higher Small Value returns at slightly lower volatility

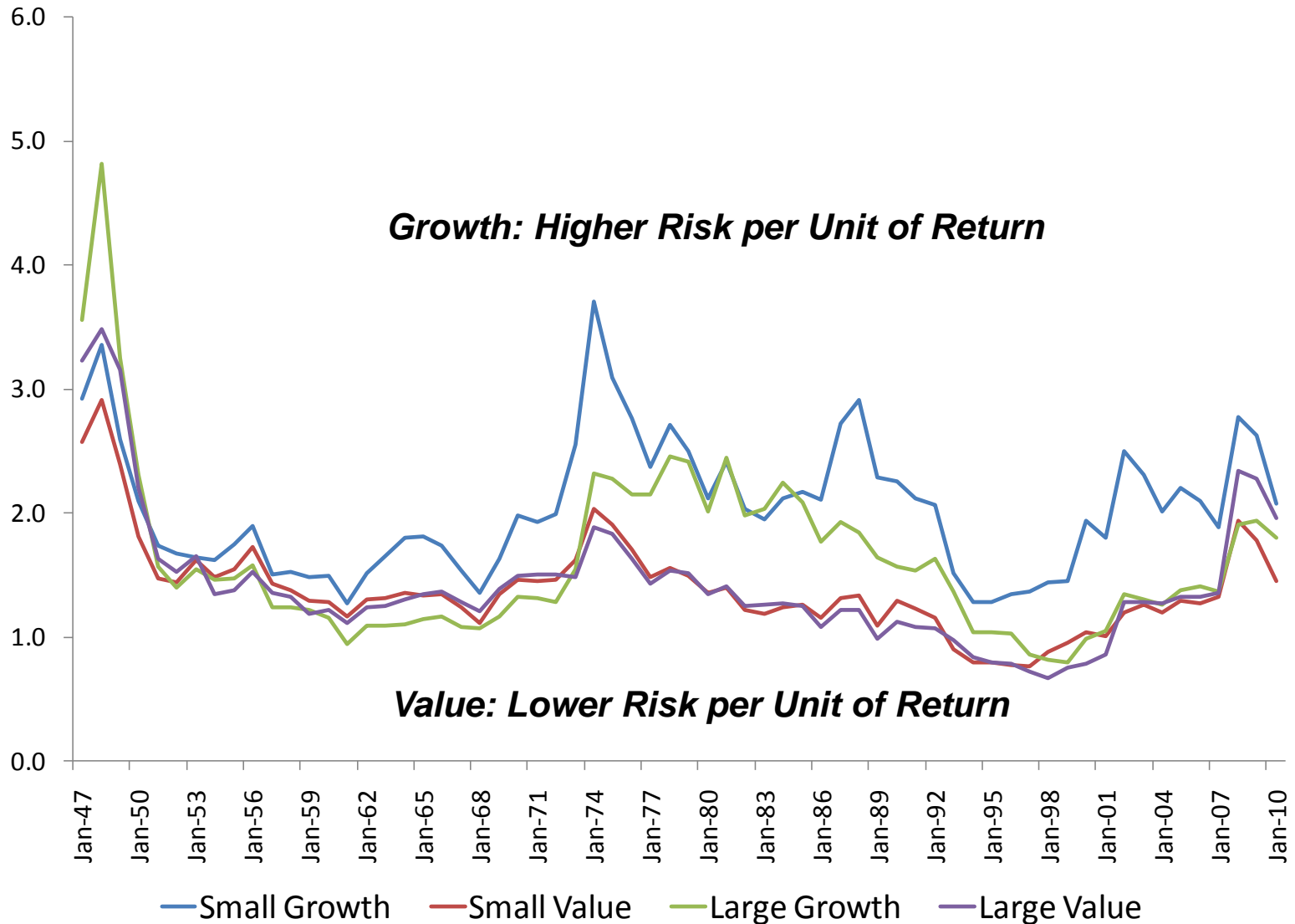
|         | Likelihood of<br>Small Value Gain | Average Gain<br>Small Value | Average Loss<br>Small Value | Expected Return<br>of Small Value |
|---------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------------|
| 1 year  | 71.1%                             | 34.15                       | -18.55                      | 18.91                             |
| 5 year  | 89.9%                             | 18.79                       | -10.48                      | 15.83                             |
| 10 year | 95.9%                             | 16.95                       | -2.57                       | 16.16                             |
| 20 year | 100.0%                            | 16.78                       | NA                          | 16.78                             |

|         | Likelihood of<br>Small Growth<br>Gain | Average Gain<br>Small Growth | Average Loss<br>Small Growth | Expected Return<br>of Small Growth | Value Minus<br>Growth |
|---------|---------------------------------------|------------------------------|------------------------------|------------------------------------|-----------------------|
| 1 year  | 68.7%                                 | 29.87                        | -20.97                       | 13.94                              | 4.97                  |
| 5 year  | 84.8%                                 | 13.98                        | -7.95                        | 10.65                              | 5.17                  |
| 10 year | 94.6%                                 | 11.15                        | -0.73                        | 10.51                              | 5.65                  |
| 20 year | 100.0%                                | 10.83                        | 10.83                        | 10.83                              | 5.96                  |

## Rolling 20-year Sharpe Ratios (1928 – 2010)



# 20-year Ratio of Risk-to-Expected Return (Coefficient of Variation) 1928 - 2010



# Results from Other Sources: Morningstar, Surz and Russell

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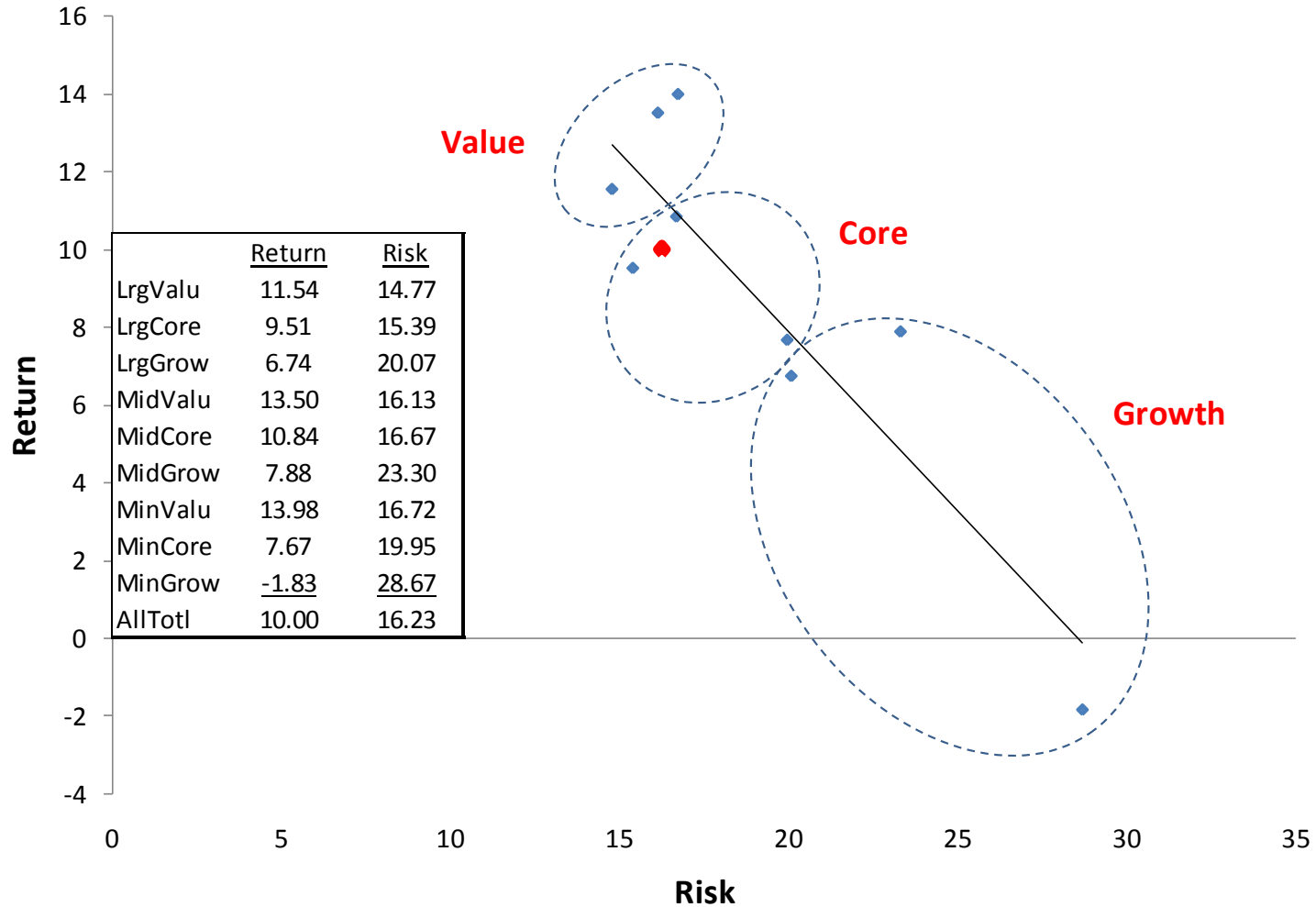
# Summary Monthly Statistics Calculated by Morningstar (983 months through mid 2009)

- Value reflected higher Sharpe ratios (Risk premium per unit of volatility)
- Value reflected higher Sortino ratios (Return premium per unit of potential loss)
- Value reflected higher maximum monthly decline, but **lower average decline**
- Value reflected **shorter average drawdown duration** and **shorter recovery duration**

|                          | Geometric Mean (%) | Standard Deviation (%) | Sharpe Ratio | Sortino Ratio | Maximum Decline (%) | Average Decline (%) | Average Drawdown Duration | Average Recovery Duration |
|--------------------------|--------------------|------------------------|--------------|---------------|---------------------|---------------------|---------------------------|---------------------------|
| Fama-French Small Growth | 9.00               | 30.93                  | 0.09         | 0.21          | -87.9               | -13.70              | 12                        | 7                         |
| Fama-French Small Value  | 13.70              | 35.03                  | 0.13         | 0.29          | -89.4               | -10.04              | 8                         | 5                         |
| Fama-French Large Growth | 8.73               | 20.77                  | 0.10         | 0.24          | -82.2               | -7.68               | 9                         | 5                         |
| Fama-French Large Value  | 10.89              | 29.60                  | 0.11         | 0.26          | -89.7               | -7.68               | 7                         | 4                         |

# Results Using Surz **U.S.** Style Pure Returns (Monthly Data from 1986 – 2010)

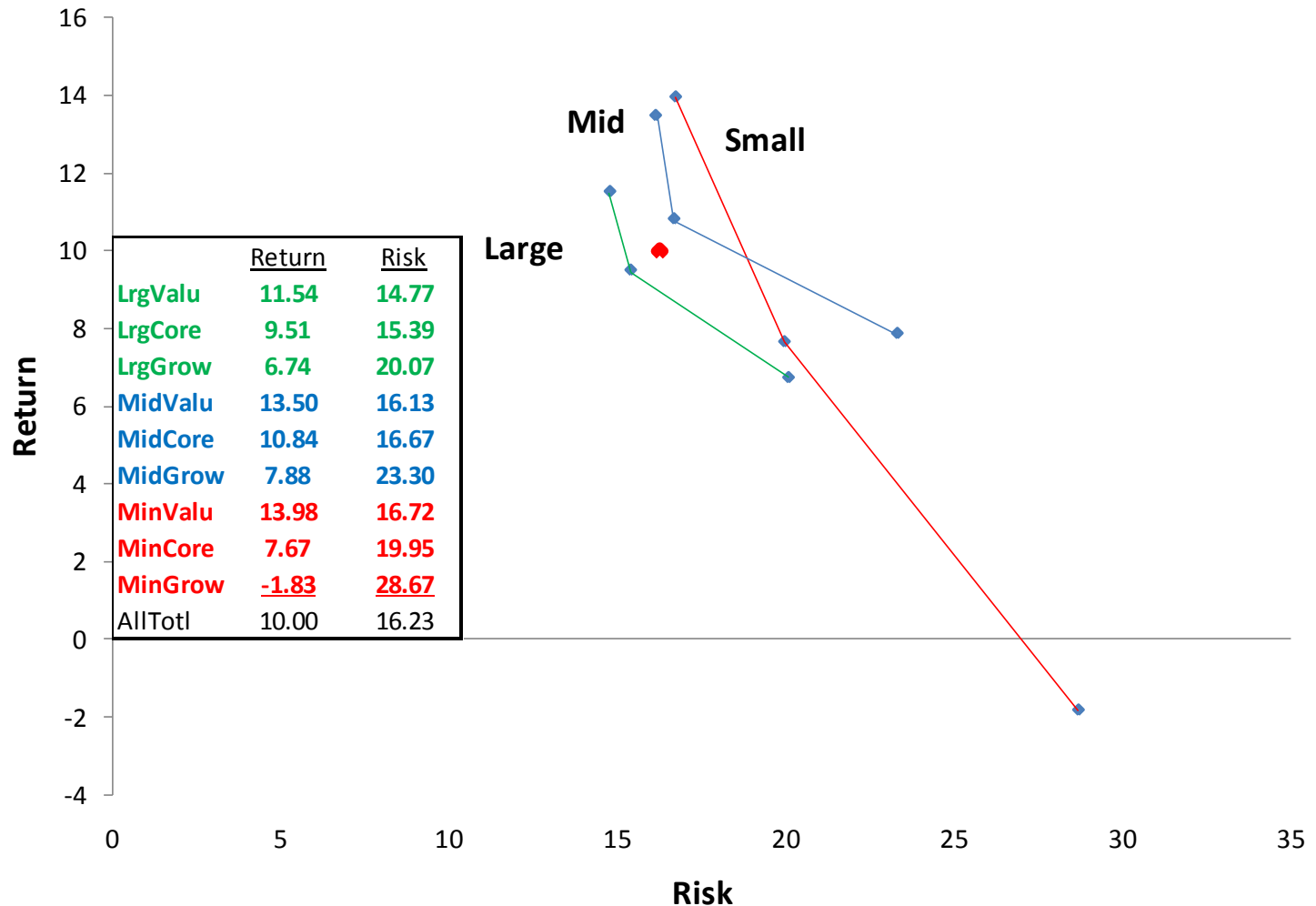
Surz PPCA Data (1986 - 2010)



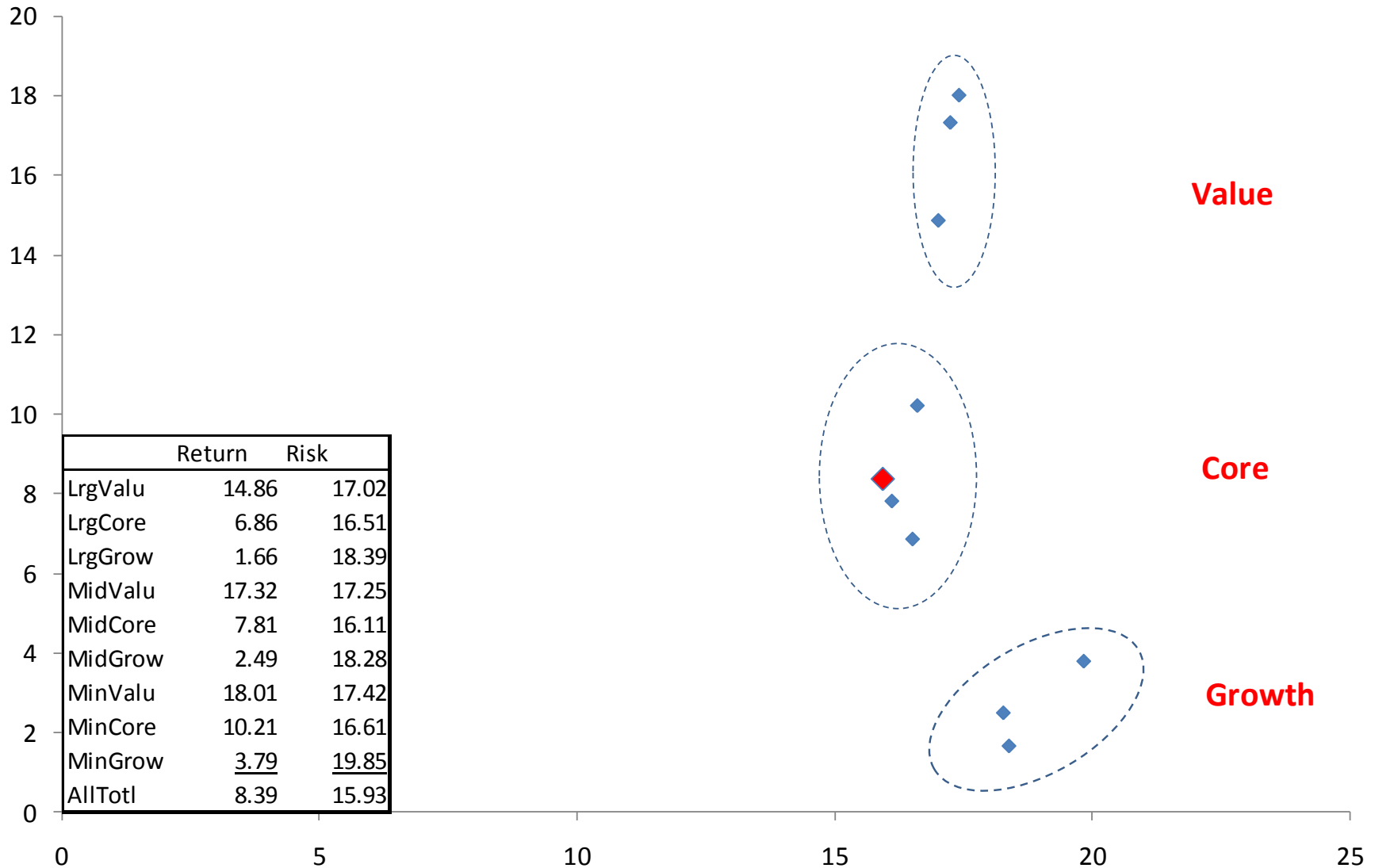


# Results Using Surz **U.S.** Style Pure Returns (Monthly Data from 1986 – 2010)

Surz PPCA Data (1986 - 2010)



# Results Using Surz Foreign Style Pure Returns (Monthly Data from 1992 – 2010)



## Russell Index Returns from Last 15 Years (Through March 31, 2009)

| Index Name                    | 5 Years | 10 Years | 15 years |
|-------------------------------|---------|----------|----------|
| Russell 3000® Growth Index    | 3.46    | -4.01    | 6.58     |
| Russell 3000® Value Index     | 1.18    | 3.51     | 8.96     |
| Russell Top 200® Growth Index | 3.16    | -4.89    | 6.57     |
| Russell Top 200® Value Index  | 0       | 0.9      | 8.08     |
| Russell Midcap® Growth Index  | 4.27    | -1.69    | 8.28     |
| Russell Midcap® Value Index   | 3.71    | 8.46     | 11.05    |
| Russell 2000® Growth Index    | 3.82    | -1.53    | 5.13     |
| Russell 2000® Value Index     | 2.75    | 8.9      | 10.36    |

- Results using Russell data were consistent with results using Fama-French data
  - *Growth outperformed Value over last 5 years*
  - *Value outperformed Growth over last 10 years and 15 years*
  - *“Value Premium” increased as we moved down in capitalization*

Source: Russell Investments Return Calculator - [http://www.russell.com/indexes/data/calculator/index\\_calculator.asp](http://www.russell.com/indexes/data/calculator/index_calculator.asp)

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## Value May Better Support Spending Through Higher Expected Yield

| Sector           | Yield |
|------------------|-------|
| Top 200          | 2.07  |
| Top 200 Growth   | 1.81  |
| Top 200 Value    | 2.34  |
|                  |       |
| Mid Cap          | 1.60  |
| Mid Cap Growth   | 1.04  |
| Mid Cap Value    | 2.13  |
|                  |       |
| Small Cap        | 1.22  |
| Small Cap Growth | 0.51  |
| Small Cap Value  | 1.88  |
|                  |       |
| Russell 3000     | 1.88  |

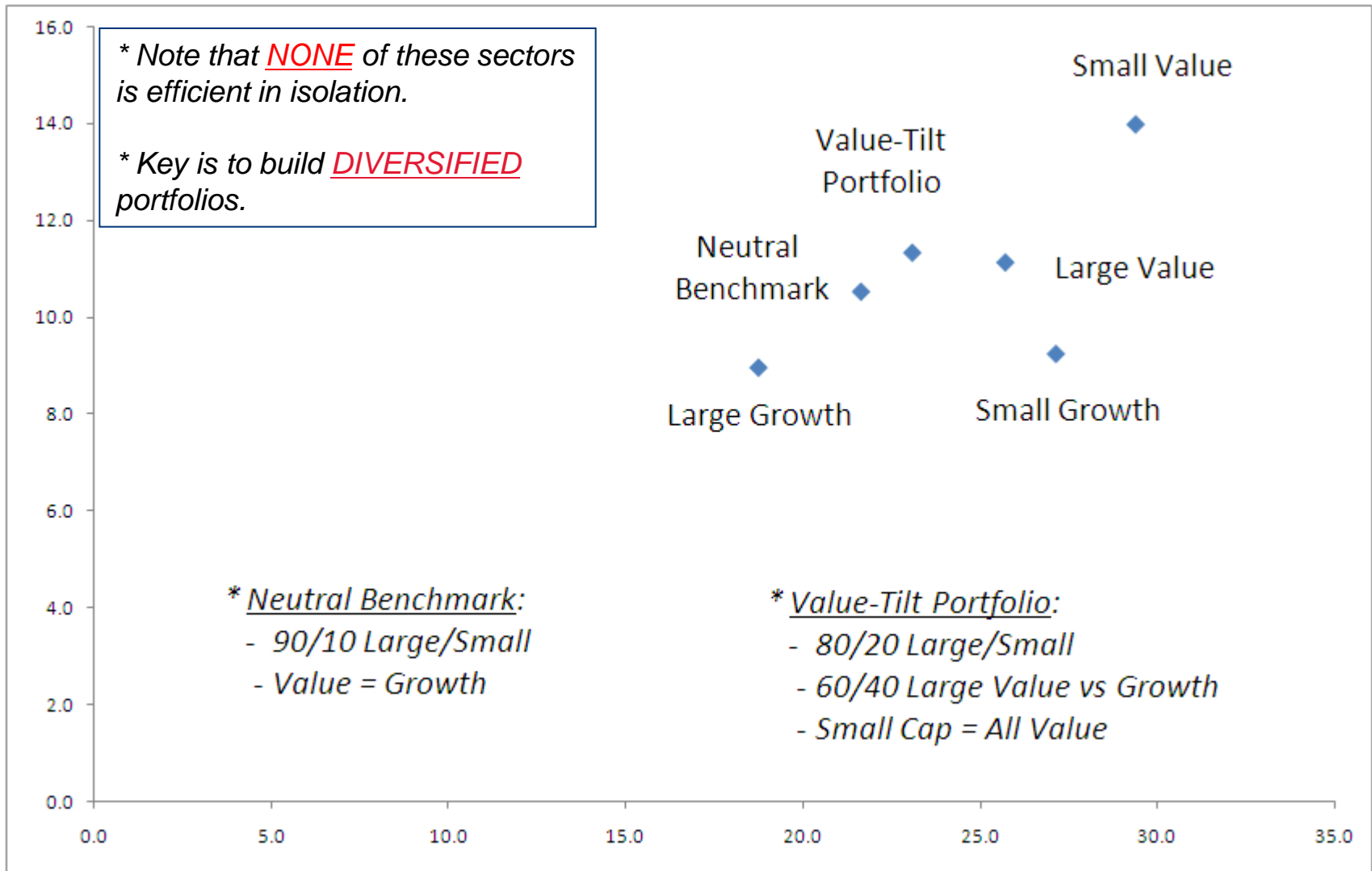
Source: Russell Investments as of April 5, 2009

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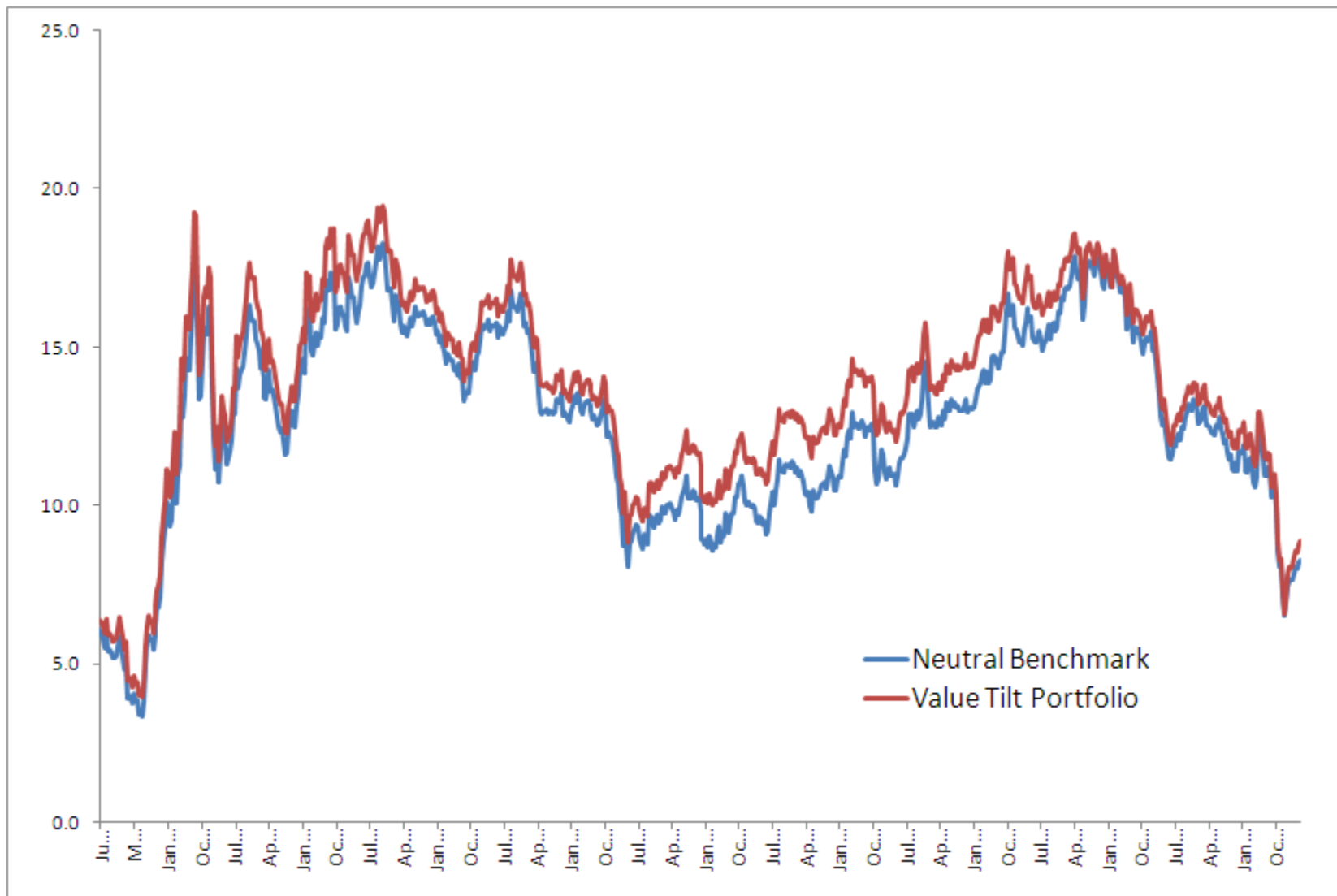
# Building Efficient Portfolios

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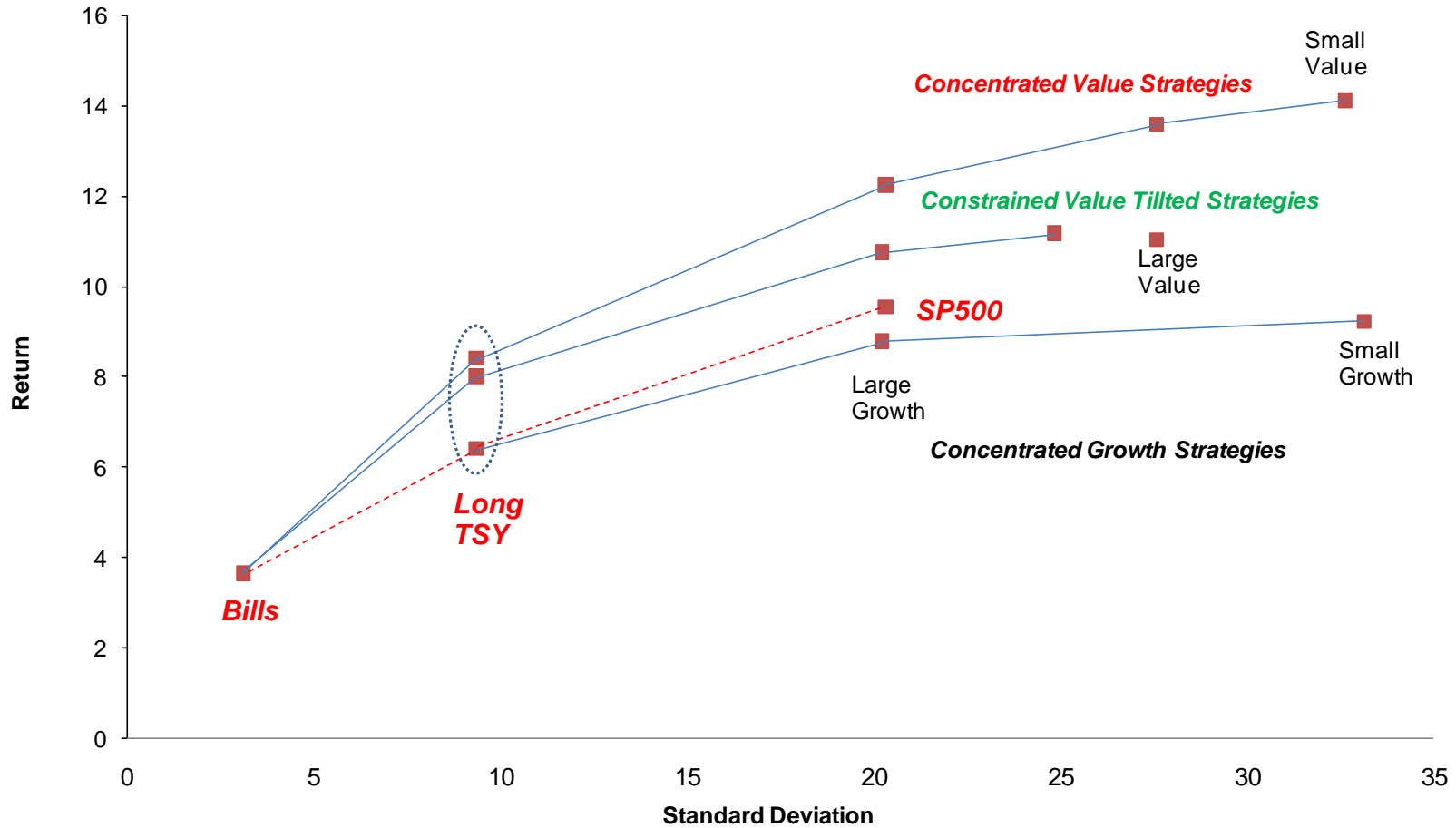
# Risk vs Return Opportunities: Value of “Value Tilt” (July 1927 – 2010)



# Trend of 20-year Returns: Neutral Benchmark vs Value-Tilt Portfolio July 1927 - 2010

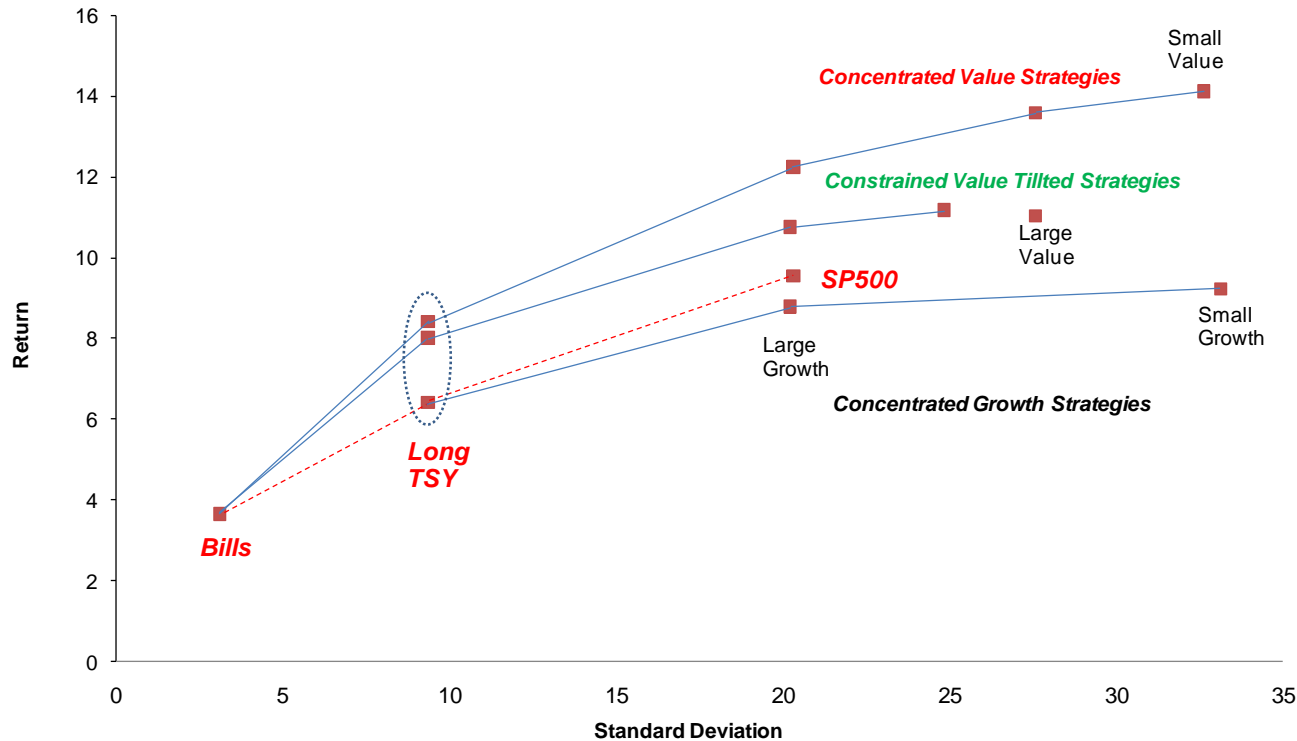


## Strategy Returns Using Style Adjusted Annual Return Data (1928 - 2010)





## Strategy Returns Using Style Adjusted Annual Return Data (1928 - 2010)



|                               | Small Growth | Small Value | Large Growth | Large Value | TSY   | Bills |
|-------------------------------|--------------|-------------|--------------|-------------|-------|-------|
| S&P Risk Strategy             | 0.0%         | 60.2%       | 0.0%         | 0.0%        | 39.8% | 0.0%  |
| TSY Risk Strategy             | 0.0%         | 22.6%       | 0.0%         | 0.0%        | 54.0% | 23.4% |
| Large Value Risk Strategy     | 0.0%         | 84.0%       | 0.0%         | 0.0%        | 16.0% | 0.0%  |
| Constrained Large Growth Risk | 0.0%         | 12.0%       | 24.0%        | 44.1%       | 19.9% | 0.0%  |
| Constrained Large Value Risk  | 0.0%         | 15.0%       | 30.0%        | 55.0%       | 0.0%  | 0.0%  |
| Constrained TSY Risk          | 0.0%         | 4.3%        | 9.6%         | 14.5%       | 57.8% | 13.8% |

## Conclusions

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- Persistent global “value premium” seems to exist
- Value premium seems to increase as you move down in size
- Small Cap premium seems to exist – but only in value
- Higher yield in value strategies may provide greater support for spending goals
- Market appears to predict greater growth correctly – but it overpays for it
- Overconfidence bias may explain persistence of market’s attraction to growth
- Asymmetry of response to earnings surprises seems to favor value:
  - Growth is punished for disappointments, but not rewarded for positive surprises
  - Value is not punished for disappointments, and is rewarded for positive surprises
- Value tilt appears to be a reasonable long term neutral position
  - Higher likelihood of excess return over growth
  - Higher margin of excess return when it is in favor



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Stephen Campisi heads Philanthropic Guidance, Analytics and Tools for the Institutional Investments Group. He is also a Senior Institutional Portfolio Strategist with responsibility for over \$1 billion in assets for non-profits. He has over twenty five years of experience in investment management, most recently as a bond portfolio manager and strategist within the insurance industry. From 1991 to 2007 he served as Adjunct Professor of Finance for the Graduate School of Business of Western New England College. Steve holds an MBA from the University of Connecticut and an MA in Music from Montclair State University. He is a recognized authority in the area of investment performance analysis, and has authored several articles on the subject. He is a frequent conference speaker on the topics of investment strategy, risk analysis and performance analysis and also participates in the CFA Institute's Speaker Program, addressing CFA Societies throughout the United States and Europe.

He is a past president of the Hartford CFA Society and has taught classes for their Chartered Financial Analyst (CFA) review course for over ten years. An active member of The CFA Institute for over 15 years, Steve served on their Professional Development Committee and their Practice Analysis Committee.