

THE COSTS OF MISTIMING THE MARKET

S&P 500 Index 1970–2015	Annualized Compound Return
Total Period	10.3%
Missing One Best Day	10.0%
Missing Five Best Single Days	9.2%
Missing 15 Best Single Days	8.0%
Missing 25 Best Single Days	6.9%
One-Month T-Bill Index	4.9%

Data supplied by Dimensional Fund Advisors. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio nor do indices represent results of actual trading. Information from sources deemed reliable, but its accuracy cannot be guaranteed. Performance is historical and does not guarantee future results. Total return includes reinvestment of dividends. See *Sources and Descriptions of Data* at the end of this booklet.

SOURCES AND DESCRIPTIONS OF DATA

U.S. Equities

S&P 500 Index

Courtesy of Roger G. Ibbotson and Rex A. Sinquefeld, *Stocks, Bonds, Bills and Inflation: The Past and the Future*, Dow Jones, 1989. Ibbotson Associates, Chicago, annually updates work by Roger G. Ibbotson and Rex A. Sinquefeld. Used with permission. All rights reserved.

CRSP Deciles 9–10 Index

Courtesy of Center for Research in Security Prices (CRSP), University of Chicago. Small company universe returns (Deciles 9–10) — all exchanges.

January 1926–June 1962: NYSE, rebalanced semiannually.
July 1962–December 1972: CRSP Database, NYSE and AMEX, rebalanced quarterly.
January 1973–September 1988: CRSP Database, NYSE, AMEX and OTC, rebalanced quarterly.
October 1988–Present: CRSP Index (NYSE, AMEX and OTC)

CRSP Deciles 6–10 Index

Courtesy of CRSP, University of Chicago. Small company universe returns (Deciles 6–10) — all exchanges.

January 1926–June 1962: NYSE, rebalanced semiannually.
July 1962–December 1972: CRSP Database, NYSE and AMEX, rebalanced quarterly.
January 1973–September 1988: CRSP Database, NYSE, AMEX and OTC, rebalanced quarterly.
October 1988–present: CRSP Index (NYSE, AMEX and OTC).

CRSP Deciles 1–10 Index (market)

Courtesy of CRSP, University of Chicago.

January 1926–June 1962: NYSE, rebalanced semiannually.
July 1962–present: CRSP deciles 1–10 cap-based (market) portfolio, rebalanced quarterly.

Fama-French US Large Growth Index (excluding utilities),

Fama-French US Large Cap Index,

Fama-French US Large Cap Value Index (excluding utilities),

Fama-French US Small Growth Index (excluding utilities),

Fama-French US Small Cap Index and

Fama-French US Small Cap Value Index (excluding utilities)

January 1927–present: Courtesy of Fama-French and CRSP. Upper-half market cap, upper 30 percent book-to-market. Buy range-only, no simulated hold range or estimated trading costs, rebalanced quarterly.

Composition:
U.S. operating companies trading on the NYSE, AMEX or Nasdaq NMS. Maximum weight of any security in a portfolio is 4 percent.

Exclusions:
ADRs, investment companies, tracking stocks before 1993, non-U.S. incorporated companies, closed-end funds and certificates.

Sources:

CRSP databases for returns and market capitalization: 1926–present.
Compustat and hand-collected book values: 1926–1992.

CRSP links to Compustat and hand-collected links: 1926–present.

Book-to-market ratios provided by Dimensional Fund Advisors (DFA): 1993–present.

Breakpoints:

Before June 1996, the small-cap portfolios contain firms with market capitalization below the 55th percentile of all eligible NYSE firms, and the large-cap portfolios contain firms with market caps above the 50th percentile. From June 1996 to December 2000, the size breakpoint for all portfolios is the market cap of the median eligible NYSE firm. The book-to-market breakpoints for 1926 to 2000 split the eligible NYSE firms with positive book equity into three categories: the top 30 percent are in value and the bottom 30 percent are in growth.

Starting in January 2001, the size breakpoints are defined by cumulative market cap percentile rules. Small-cap is the bottom 8 percent of the overall stock market and large-cap is the top 90 percent. The book-to-market breakpoints are defined by the firms in the relevant size range.

The breakpoints for small-cap value (high book-to-market) and small-cap growth (low book-to-market) assign 25 percent of the total market cap in the small-cap size range to each portfolio. The book-to-market breakpoints for large-cap assign 10 percent of the market equity of large firms to the large-cap value portfolio and 20 percent to the large-cap growth portfolio.

Rebalancing:

Annual (at the end of June): 1926–1992. Quarterly: 1993–present.

Dimensional US Micro Cap Index

Courtesy of CRSP and Compustat.

June 1927–present:

Dimensional US Micro Cap Index.

Composition: Market-capitalization-weighted index of securities of the smallest U.S. companies whose market capitalization falls in the lowest 4 percent of the total market capitalization of the eligible market. The eligible market is composed of securities of U.S. companies traded on the NYSE, AMEX and Nasdaq Global Market.

Dimensional US Small Cap Value Index

Courtesy of CRSP and Compustat.

June 1927–present:

Dimensional US Small Cap Value Index.

Composition: Companies whose book-to-market ratio falls in the top 25 percent of U.S. small-cap companies after the exclusion of utilities, companies lacking financial data and companies with negative book-to-market ratio. The eligible market is composed of securities of U.S. companies traded on the NYSE, AMEX and Nasdaq Global Market.

Dimensional US Large Cap Value Index

Courtesy of CRSP and Compustat.

June 1927–present:

Dimensional US Large Cap Value Index.

Composition: Companies whose book-to-market ratio falls in the top 20 percent of U.S. large-cap companies after the exclusion of utilities, companies lacking financial data and companies with negative book-to-market ratio. The eligible market is composed of securities of U.S. companies traded on the NYSE, AMEX and Nasdaq Global Market.

US Market Equity — Risk Targets 2 and 3

Courtesy of DFA.

January 1973–present:

DFA US Adjusted Market 2 Index.

US Large Cap Value

Courtesy of DFA.

January 1973–present:

DFA US Large Cap Value Index.

US Small Cap Value

Courtesy of DFA.

January 1973–present:

DFA US Small Value Index.

International Equities

Fama-French International Value Index

Courtesy of Morgan Stanley Capital International (MSCI) and Fama-French.

January 1973–December 1974:

Data provided by MSCI EAFE Index (net dividends).

January 1975–present:

Data provided by Fama-French from MSCI securities data. Simulated strategy of MSCI EAFE countries in the upper 30 percent book-to-market range.

Dimensional International Small Cap Index

Courtesy of DFA.

January 1970–June 1981:

50 percent Hoare Govett Small Companies Index.

50 percent Nomura Small Companies Index.

July 1981–present:

Simulated by DFA from Style Research securities data.

Includes securities of MSCI EAFE countries in the bottom 10 percent of market capitalization, excluding the bottom 1 percent.

Sources and descriptions of data supplied by Dimensional Fund Advisors.

Information from sources deemed reliable, but its accuracy cannot be guaranteed.

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International Market Equity

Courtesy of MSCI, DFA and Fama-French.

January 1973–December 1974:	50 percent MSCI EAFE (net dividends). 50 percent DFA International Small Cap Index. 35 percent MSCI EAFE (net dividends). 28 percent Fama-French International Value Index. 37 percent DFA International Small Cap Index.
January 1975–June 1981:	35 percent MSCI EAFE (net dividends). 28 percent Fama-French International Value Index. 32 percent DFA International Small Cap Index. 5 percent DFA International Small Cap Value Index.
July 1981–present:	35 percent MSCI EAFE (net dividends). 28 percent Fama-French International Value Index. 32 percent DFA International Small Cap Index. 5 percent DFA International Small Cap Value Index.

International Large Value

Courtesy of MSCI, DFA and Fama-French.

January 1973–December 1974:	50 percent MSCI EAFE (net dividends). 50 percent DFA International Small Cap Index.
January 1975–present:	Fama-French International Value Index.

International Small Value

Courtesy of DFA.

January 1973–June 1981:	DFA International Small Cap Index.
July 1981–present:	DFA International Small Cap Value Index.

Emerging Market Equity

Courtesy of MSCI, DFA and Fama-French.

January 1973–December 1974:	25 percent MSCI EAFE (net dividends). 75 percent DFA International Small Cap Index.
January 1975–December 1987:	50 percent Fama-French International Value Index. 50 percent DFA International Small Cap Index.
January 1988–December 1988:	MSCI Emerging Markets Index (gross).
January 1989–present:	50 percent MSCI Emerging Markets Index (gross). 25 percent Fama-French Emerging Markets Small Cap Index. 25 percent Fama-French Emerging Markets Value Index.

Fixed Income

Barclays Capital Government/Credit Bond Index

Range 1–30+ years. Courtesy of Barclays Capital.

Barclays Capital Intermediate Government Credit Bond Index

Range 1–10 years. Courtesy of Barclays Capital.

Six-Month Treasury Bills

Courtesy of CRSP and Bank of America Merrill Lynch.

January 1964–December 1977:	CRSP.
January 1978–present:	Bank of America Merrill Lynch G002 Index.

One-Year Treasury Note Index

Courtesy of CRSP, DFA and Bank of America Merrill Lynch.

July 1963–May 1991:	CRSP/DFA.
June 1991–June 2000:	Bank of America Merrill Lynch One-Year US Treasury Bill Index.
July 2000–present:	Bank of America Merrill Lynch One-Year US Treasury Note Index (GC03 Index).

One-Month Treasury Bills (Average maturity: 30 days), Five-Year Treasury Notes, Long-Term Government Bonds (Average maturity: 20 years) and Long-Term Corporate Bonds

Courtesy of Roger G. Ibbotson and Rex A. Sinquefeld, *Stocks, Bonds, Bills and Inflation: The Past and the Future*, Dow Jones, 1989. Ibbotson Associates, Chicago, annually updates work by Roger G. Ibbotson and Rex A. Sinquefeld. Used with permission. All rights reserved.

One-Month Certificate of Deposit

Courtesy of Federal Reserve Bank.

January 1966–present:	One-Month Certificate of Deposit Index.
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Three-Month Certificate of Deposit

Courtesy of Federal Reserve Bank.

January 1988–present:	Three-Month Certificate of Deposit Index.
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Six-Month Certificate of Deposit

Courtesy of Federal Reserve Bank.

January 1988–present:	Six-Month Certificate of Deposit Index.
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Bank of America Merrill Lynch Three-Month US Treasury Bill Index

Courtesy of Bank of America Merrill Lynch.

January 1978–present:	Bank of America Merrill Lynch Three-Month US Treasury Bill Index.
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Barclays Capital US Government Bond Index (Intermediate)

Courtesy of Barclays Capital.

January 1973–present:	Barclays Capital Intermediate Government Bond Index.
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Barclays Capital Treasury Bond Index (Intermediate)

Courtesy of Barclays Capital.

January 1973–present:	Barclays Capital Intermediate Treasury Bond Index.
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Barclays Capital Credit Bond Index (Intermediate)

Range 1–10 years. Courtesy of Barclays Capital.

January 1973–present:	Barclays Capital Intermediate Credit Bond Index.
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Barclays Capital Treasury Bond Index

Range 1–30+ years. Courtesy of Barclays Capital.

January 1973–present:	Barclays Capital Treasury Bond Index.
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Barclays Capital US Government Bond Index

Range 1–30+ years. Courtesy of Barclays Capital.

January 1973–present:	Barclays Capital Government Bond Index.
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CSFB High Yield Index

Courtesy of Morningstar.

January 1988–present:	CSFB High Yield Index.
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Fixed Income for Risk Target 3 Indexes

Courtesy of Bank of America Merrill Lynch, Citigroup and Barclays Capital.

January 1964–December 1975:	Bank of America Merrill Lynch One-Year US Treasury Note Index.
January 1976–December 1989:	Barclays Capital Treasury Bond Index 1–5 Years.
January 1990–February 1997:	Citigroup World Government Bond Index 1–5 Years (hedged).
March 1997–present:	50 percent Citigroup World Government Bond Index 1–5 Years (hedged). 50 percent Barclays Capital US TIPS Index.

Fixed Income Allocation for Simulated Strategies

January 1997–December 2006:	100 percent DFA Two-Year Global (DFGFX).
January 2007–December 2009:	50 percent DFA Two-Year Global (DFGFX). 50 percent DFA Inflation-Protected Securities (DIPSX).
January 2010–present:	80-20 allocation: 50 percent DFA Five-Year Global (DFGBX). 50 percent DFA Inflation-Protected Securities (DIPSX). All other allocations: 50 percent DFA Two-Year Global (DFGFX). 50 percent DFA Inflation-Protected Securities (DIPSX).

Hard Assets

Dow Jones Wilshire REIT Index

Courtesy of Dow Jones Wilshire.

January 1978–present:	Dow Jones Wilshire REIT Index.
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S&P Goldman Sachs Commodities Index™

January 1970–present:	S&P Goldman Sachs Commodities Index™
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Inflation

Courtesy of Roger G. Ibbotson and Rex A. Sinquefeld, *Stocks, Bonds, Bills and Inflation: The Past and the Future*, Dow Jones, 1989. Ibbotson Associates, Chicago, annual updates work by Roger G. Ibbotson and Rex A. Sinquefeld. Used with permission. All rights reserved.

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