

# Performance of Premiums in the Equity Markets

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# Market Prices Contain Relevant Information

Prices reflect the aggregate expectations of market participants.

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Fairly priced securities can have different expected returns.

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Efficiently capturing higher expected returns requires the rational use of information contained in security prices.

# Dimensions of Expected Returns

Expected returns are driven by prices investors pay and cash flows they expect to receive

## DIMENSIONS POINT TO SYSTEMATIC DIFFERENCES IN EXPECTED RETURNS



To be considered a dimension of expected return, a premium must be:

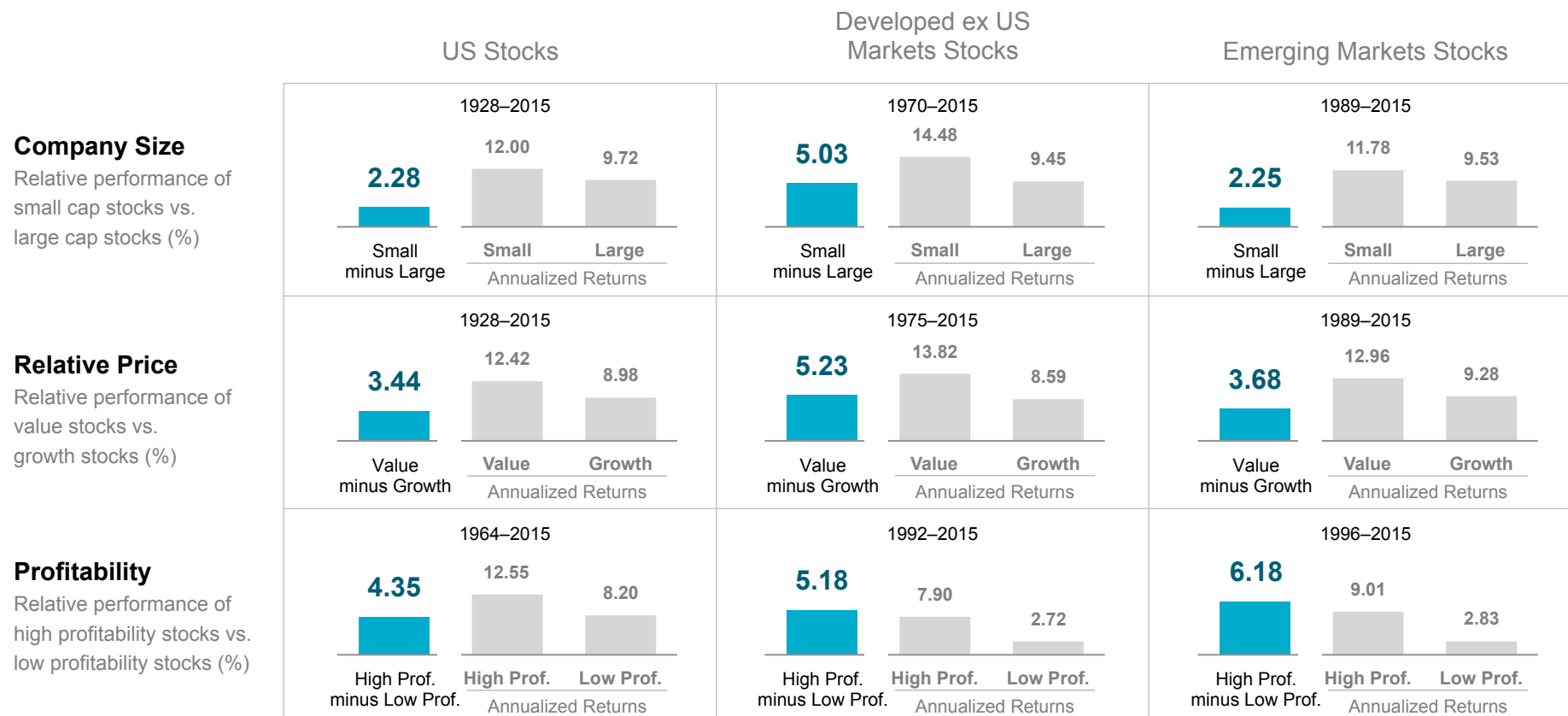
- Sensible
- Persistent across time periods
- Pervasive across markets
- Robust to alternative specifications
- Cost-effective to capture in well-diversified portfolios

Diversification does not eliminate the risk of market loss. 1. Relative price as measured by the price-to-book ratio; value stocks are those with lower price-to-book ratios.

2. Profitability is a measure of current profitability, based on information from individual companies' income statements.

# Dimensions of Expected Returns

Historical premiums and returns (annualized): US, Developed ex US, and Emerging Markets

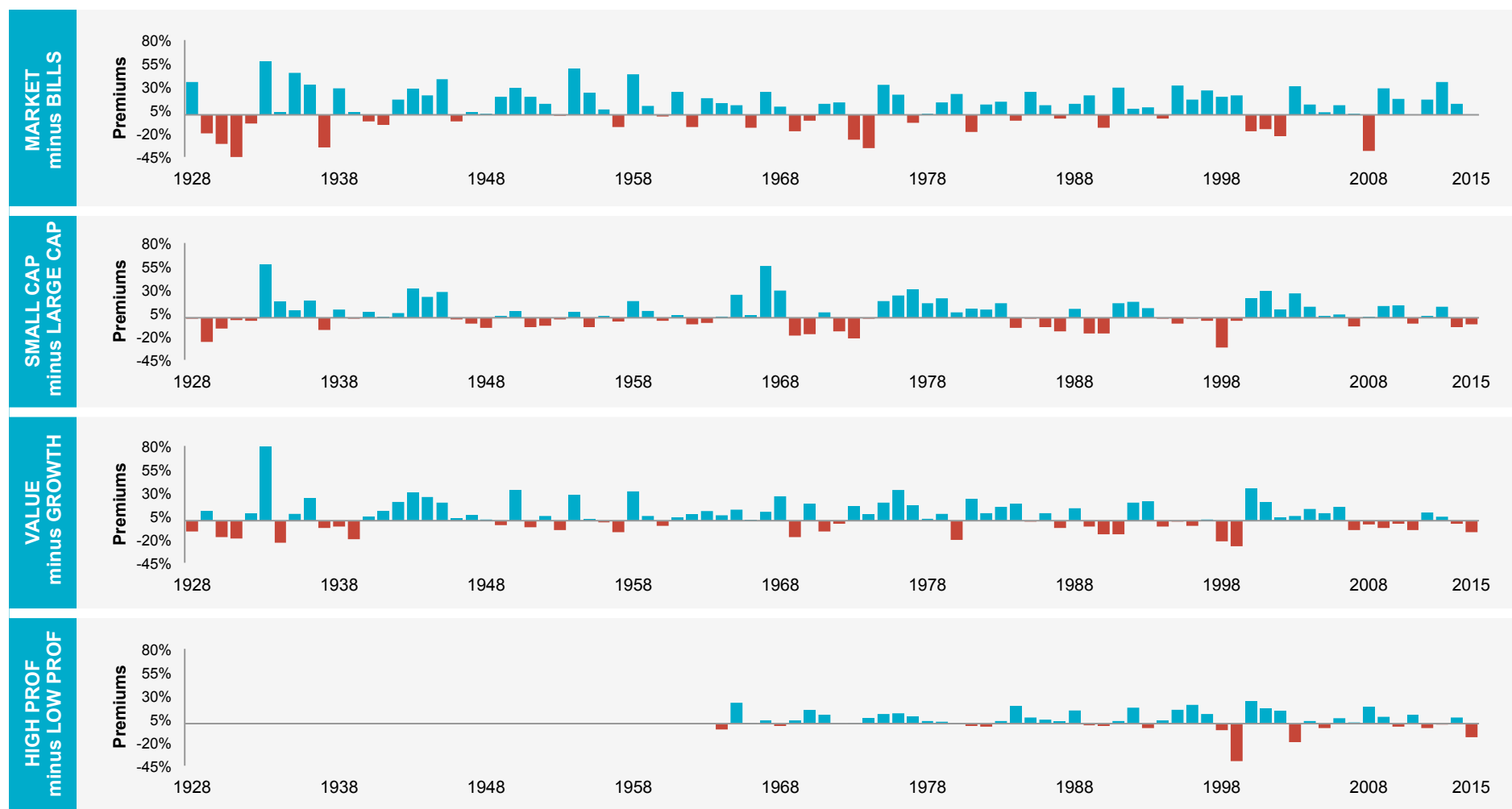


Information provided by Dimensional Fund Advisors LP.

US size premium: Dimensional US Small Cap Index minus S&P 500 Index. US relative price premium: Fama/French US Value Index minus Fama/French US Growth Index. US profitability premium: Dimensional US High Profitability Index minus Dimensional US Low Profitability Index. Dev. ex US size premium: Dimensional Intl. Small Cap Index minus MSCI World ex USA Index (gross div.). Dev. ex US relative price premium: Fama/French International Value index minus Fama/French International Growth Index. Dev. ex US profitability premium: Dimensional International High Profitability Index minus Dimensional International Low Profitability Index. Emerging Markets size premium: Dimensional Emerging Markets Small Cap Index minus MSCI Emerging Markets Index (gross div.). Emerging Markets relative price premium: Fama/French Emerging Markets Value Index minus Fama/French Emerging Markets Growth Index. Emerging Markets profitability premium: Dimensional Emerging Markets High Profitability Index minus Dimensional Emerging Markets Low Profitability Index. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. **Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Index returns are not representative of actual portfolios and do not reflect costs and fees associated with an actual investment. Actual returns may be lower. See "Index Descriptions" for descriptions of Dimensional and Fama/French index data.** Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. The S&P data is provided by Standard & Poor's Index Services Group. MSCI data © MSCI 2016, all rights reserved.

# Yearly Observations of Premiums

Equity, size, relative price, and profitability: US Markets



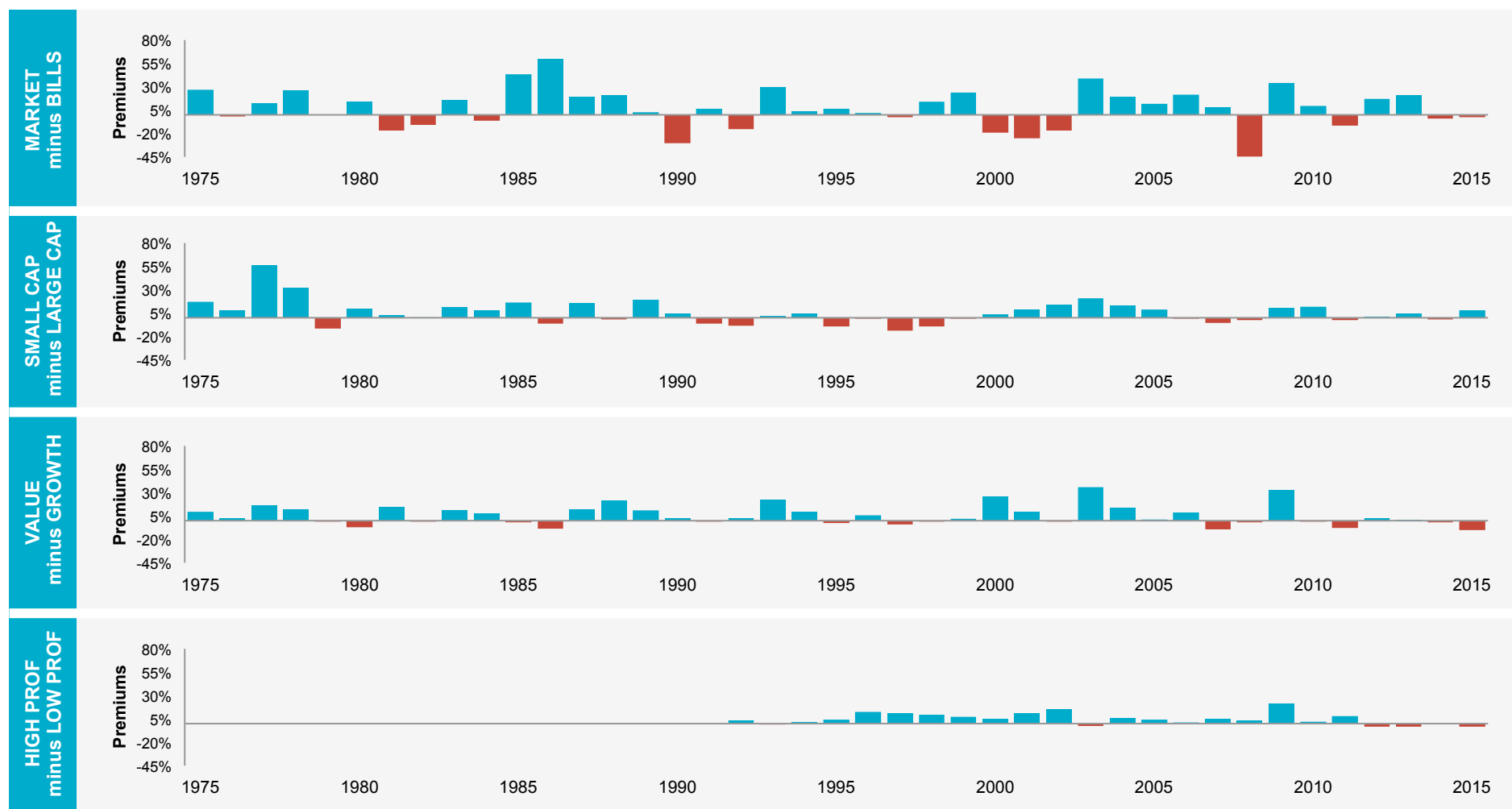
Information provided by Dimensional Fund Advisors LP.

Equity premium: Fama/French Total US Market Index minus one-month US Treasury Bills. Size premium: Dimensional US Small Cap Index minus the S&P 500 Index. Relative price premium: Fama/French US Value Index minus the Fama/French US Growth Index. Profitability premium: Dimensional US High Profitability Index minus the Dimensional US Low Profitability Index. Profitability is measured as operating income before depreciation and amortization minus interest expense, scaled by book. Dimensional indices use CRSP and Compustat data. Fama/French indices provided by Ken French. The S&P data is provided by Standard & Poor's Index Services Group. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP.

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# Yearly Observations of Premiums

Equity, size, relative price, and profitability: Developed ex US Markets

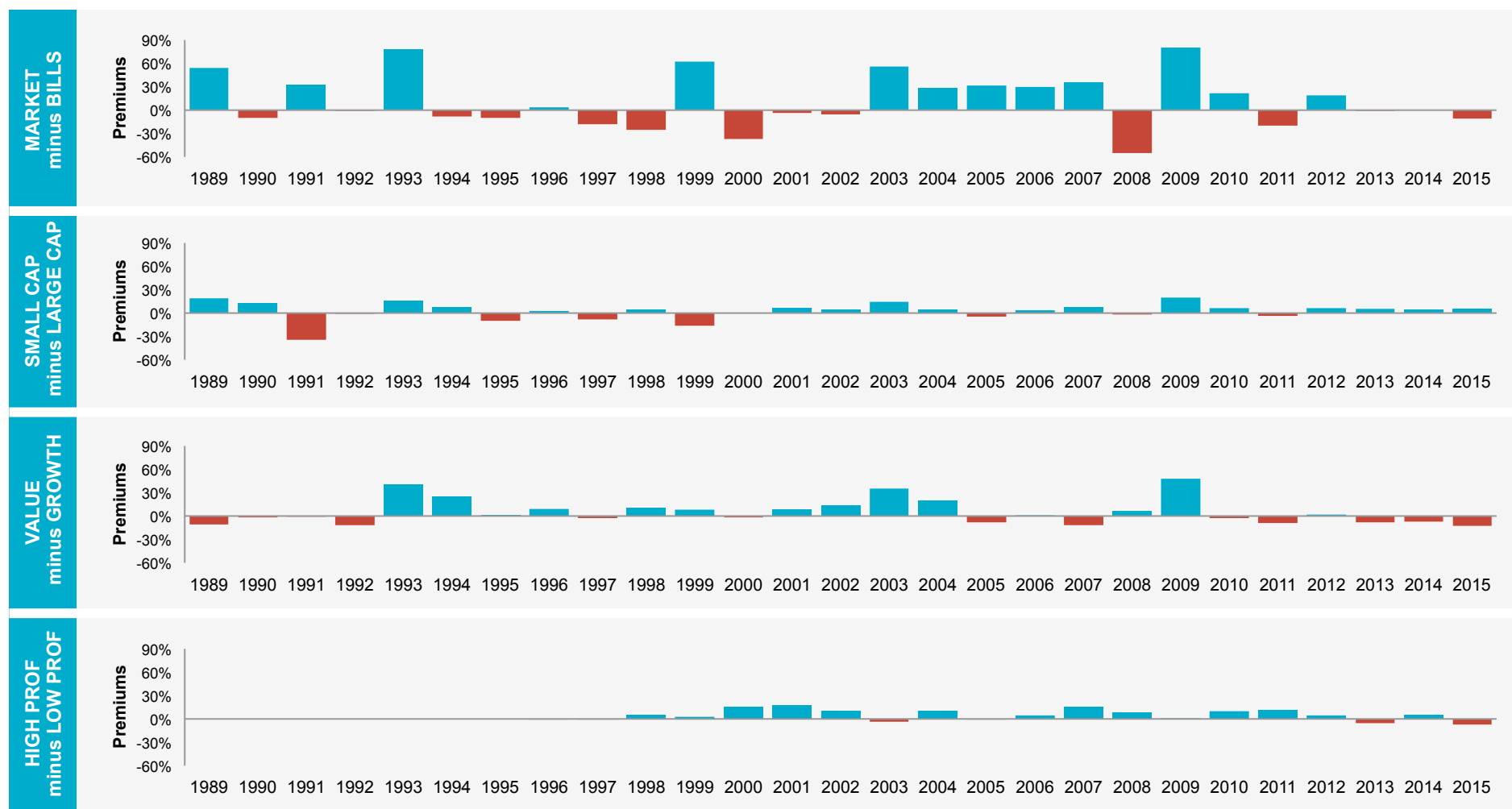


Information provided by Dimensional Fund Advisors LP.

Equity premium: MSCI World ex USA Index (gross dividends) minus one-month US Treasury Bills. Size premium: Dimensional International Small Cap Index minus the MSCI World ex USA Index (gross dividends). Relative price premium: Fama/French International Value Index minus the Fama/French International Growth Index. Profitability premium computed by Dimensional using Bloomberg data: Dimensional International High Profitability Index minus the Dimensional International Low Profitability Index. Profitability is measured as operating income before depreciation and amortization minus interest expense, scaled by book. Dimensional indices use Bloomberg data. Fama/French indices provided by Ken French. MSCI data copyright MSCI 2016, all rights reserved. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is no guarantee of future results.

# Yearly Observations of Premiums

Equity, size, relative price, and profitability: Emerging Markets



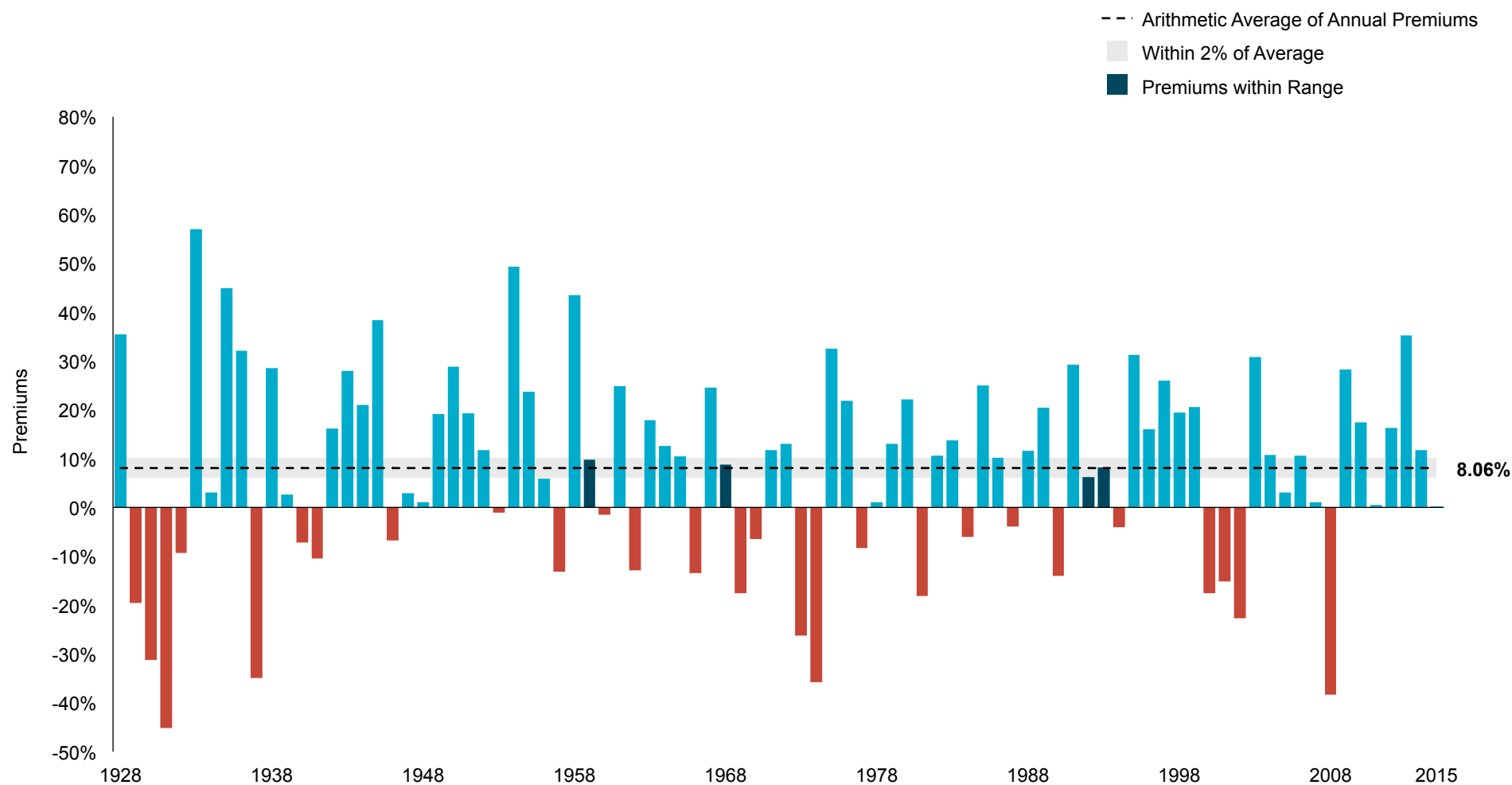
Information provided by Dimensional Fund Advisors LP.

Equity premium: Fama/French Emerging Markets Index minus one-month US Treasury Bills. Size premium: Dimensional Emerging Markets Small Cap Index minus MSCI Emerging Markets Index (gross dividends). Relative price premium: Fama/French Emerging Markets Value Index minus Fama/French Emerging Markets Growth Index. Profitability premium: Dimensional Emerging Markets High Profitability Index minus the Dimensional Emerging Markets Low Profitability Index. Profitability is measured as operating income before depreciation and amortization minus interest expense, scaled by book. Dimensional indices use Bloomberg data. Fama/French indices provided by Ken French. MSCI data copyright MSCI 2016, all rights reserved. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP

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# Yearly Observations of Premiums

Market minus one-month Treasury bills: US Markets  
1928–2015



Information provided by Dimensional Fund Advisors LP.

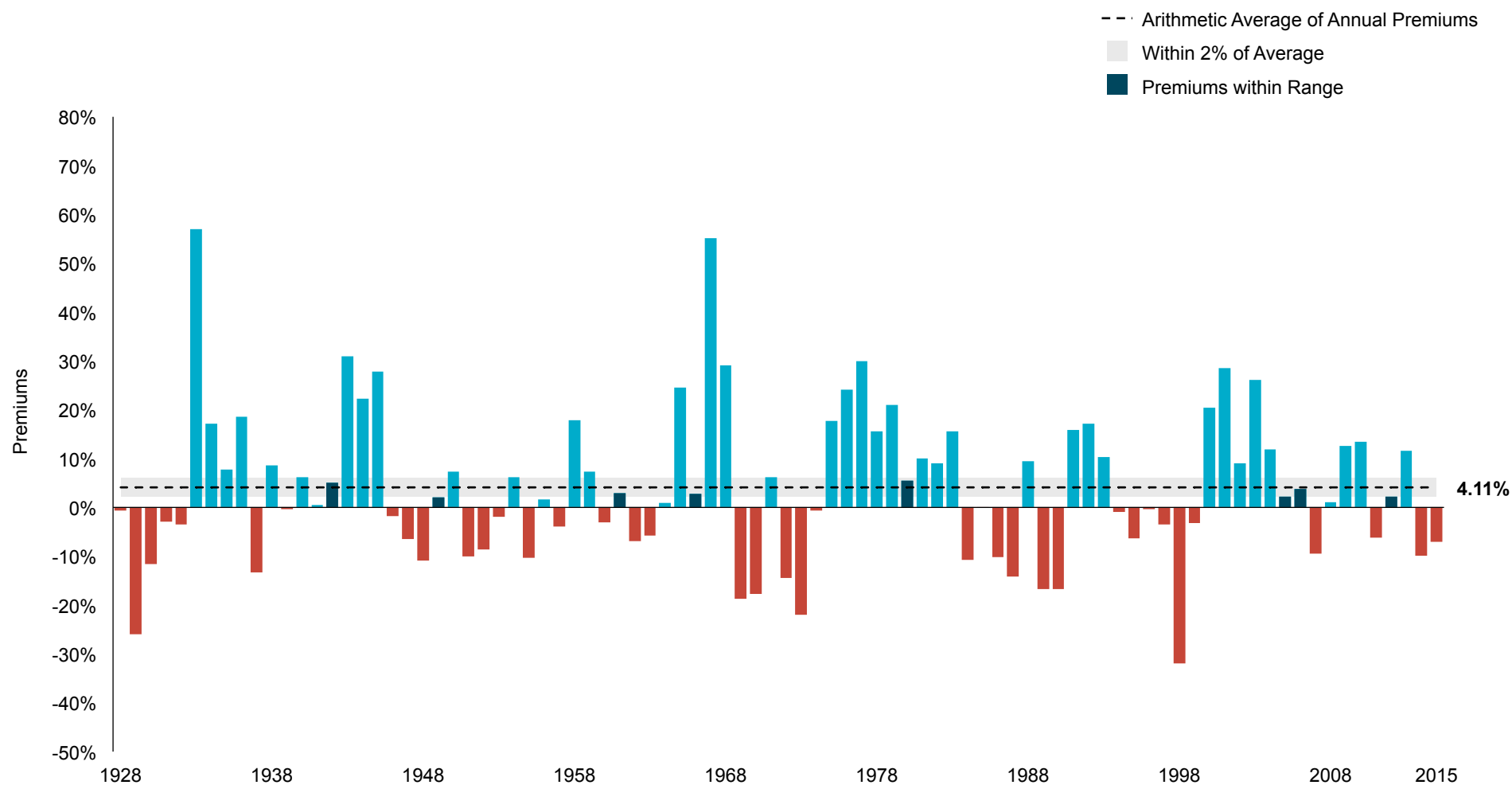
The equity premium is the Fama/French Total US Market Index minus one-month US Treasury Bills. Fama/French indices provided by Ken French. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP.

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# Yearly Observations of Premiums

Small cap minus large cap: US Markets  
1928–2015



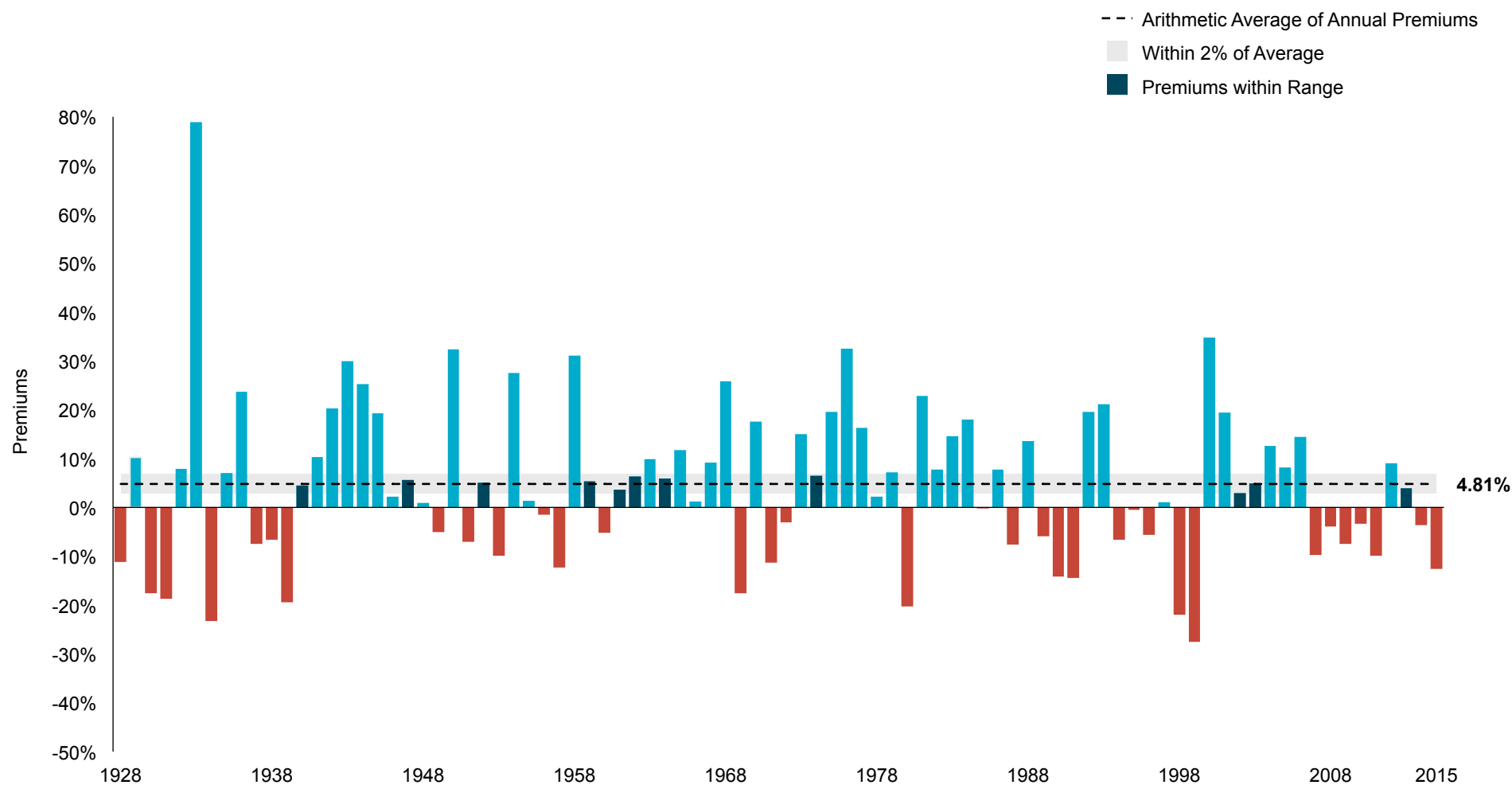
Information provided by Dimensional Fund Advisors LP.

The size premium is the Dimensional US Small Cap Index minus the S&P 500 Index. Dimensional indices use CRSP and Compustat data. The S&P data are provided by Standard & Poor's Index Services Group. Index descriptions available upon request.

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# Yearly Observations of Premiums

Value minus growth: US Markets  
1928–2015



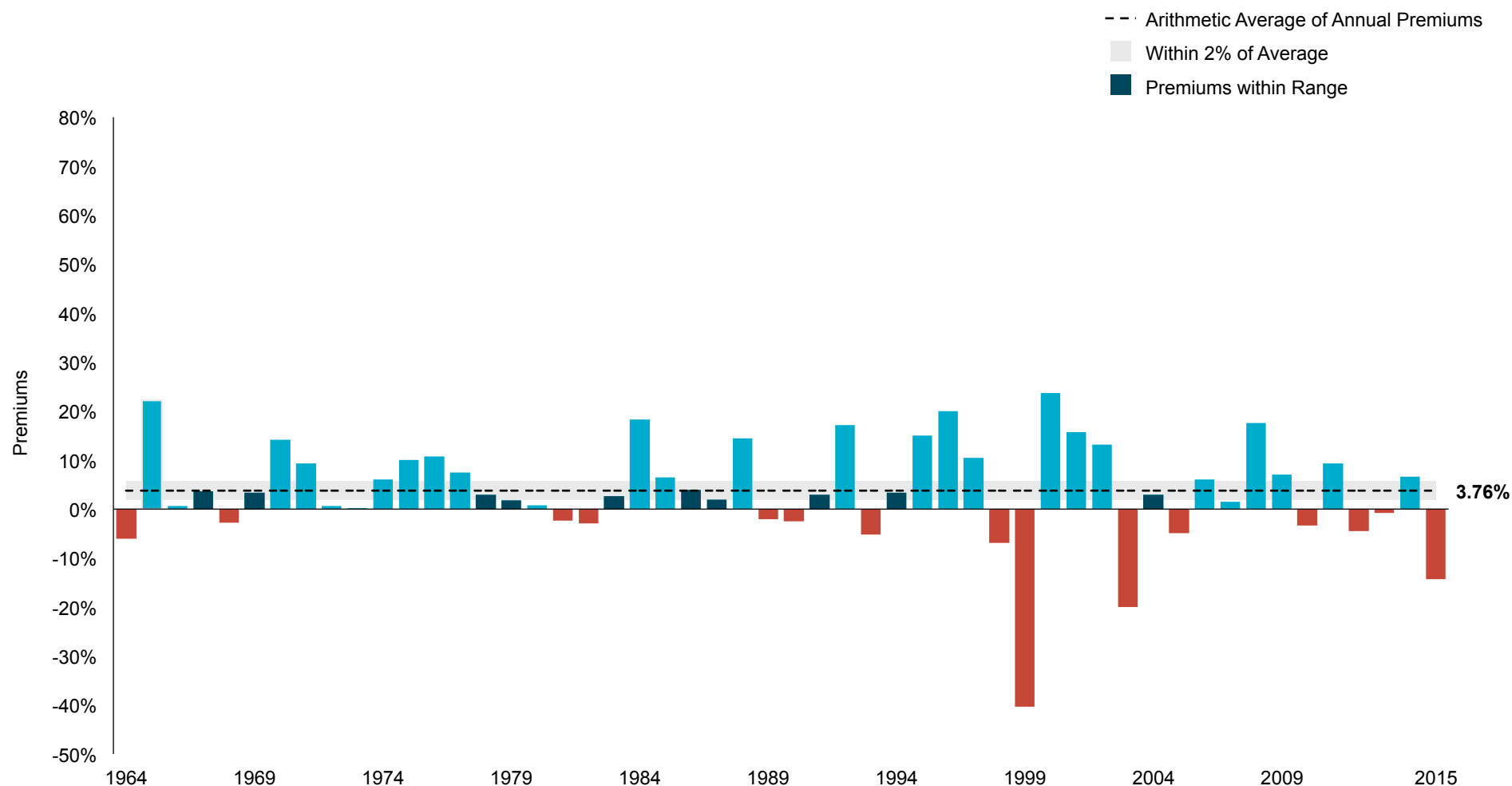
Information provided by Dimensional Fund Advisors LP.

The relative price premium is the Fama/French US Value Index minus the Fama/French US Growth Index. Fama/French indices provided by Ken French. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP.

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# Yearly Observations of Premiums

High profitability minus low profitability: US Markets  
1964–2015



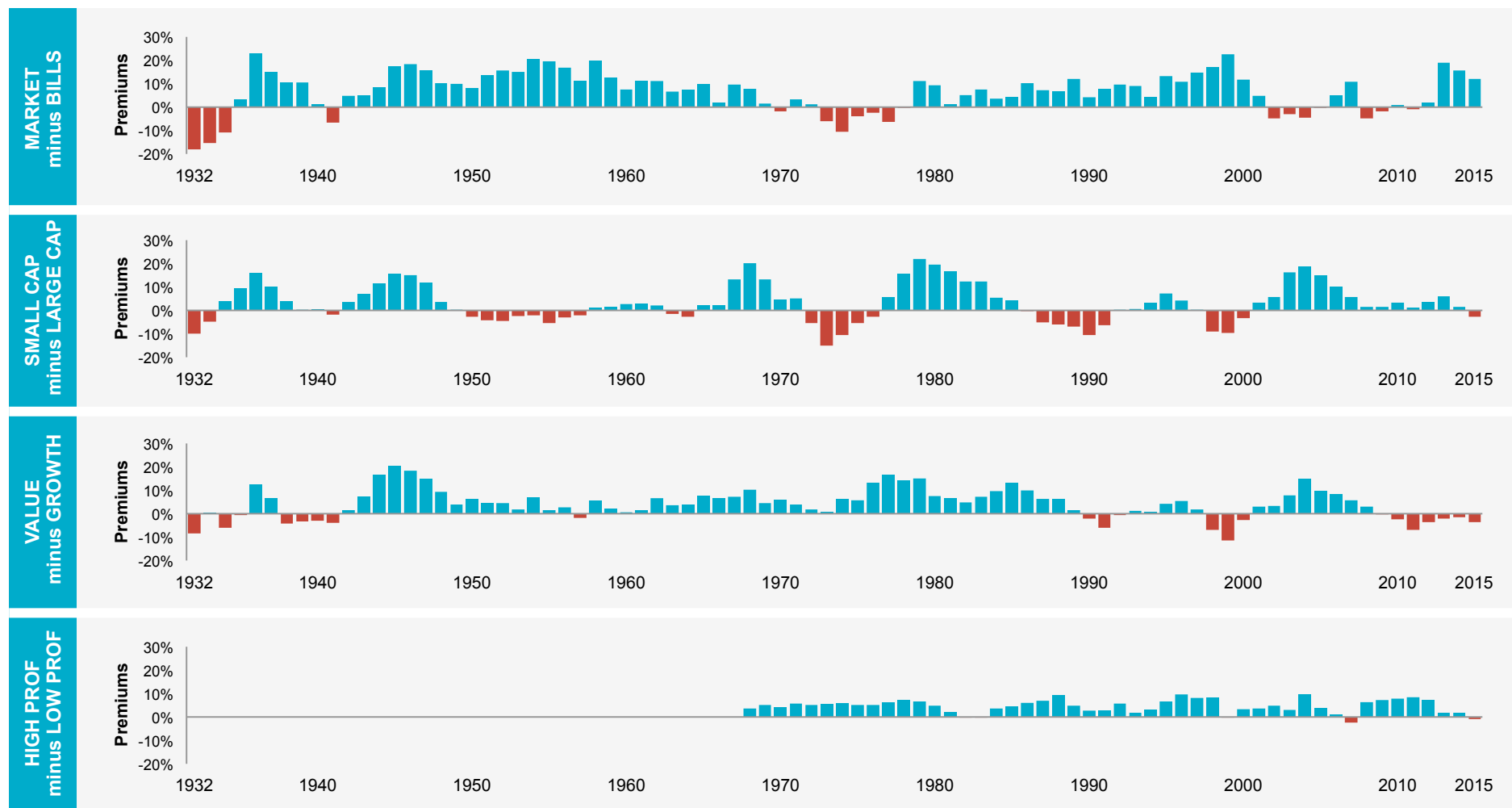
Information provided by Dimensional Fund Advisors LP.

The profitability premium is the Dimensional US High Profitability Index minus the Dimensional US Low Profitability Index. Profitability is measured as operating income before depreciation and amortization minus interest expense, scaled by book. Dimensional indices use CRSP and Compustat data. Index descriptions available upon request.

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# Historical Observations of Five-Year Premiums

Equity, size, relative price, and profitability: US Markets

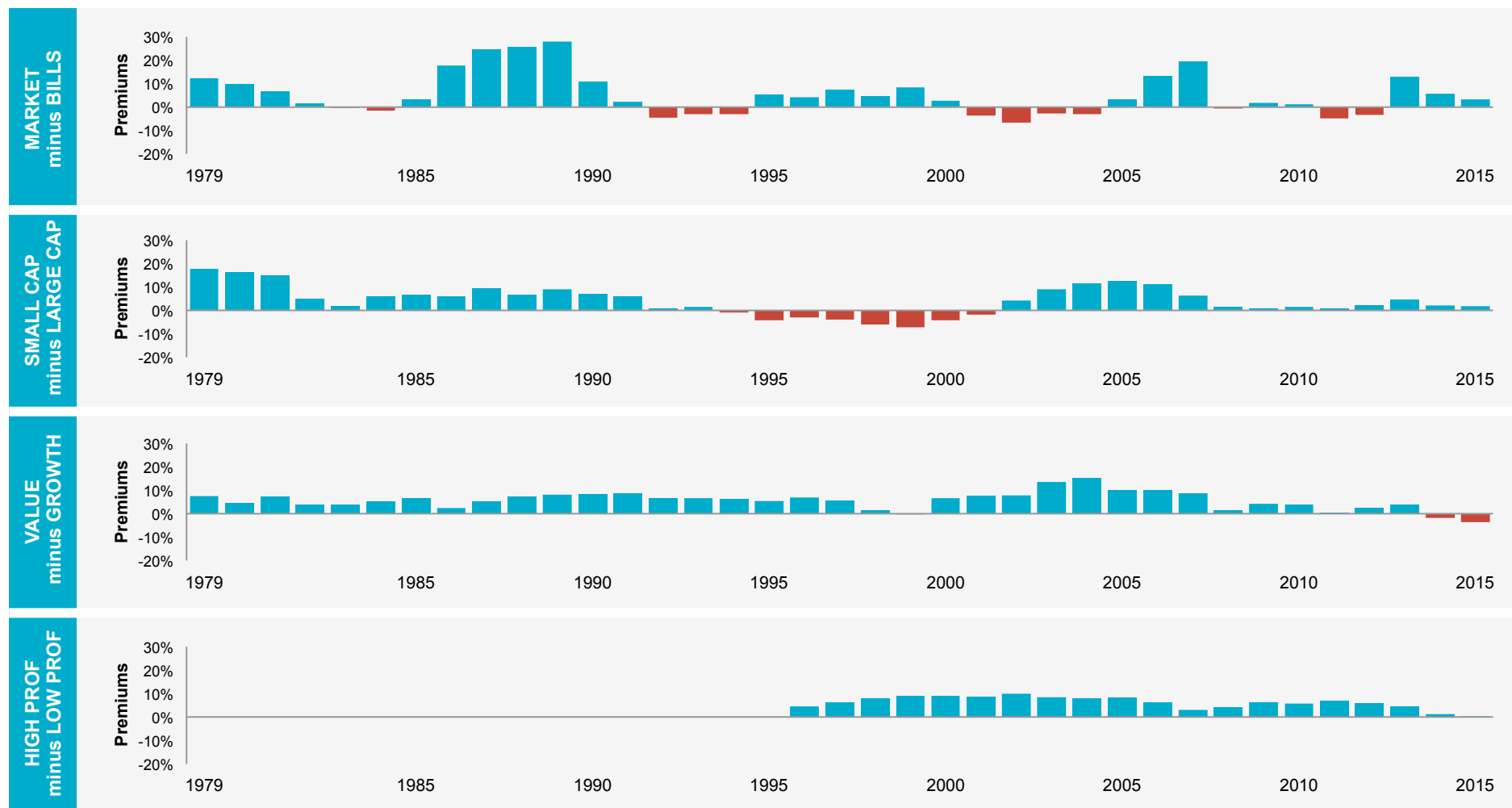


Information provided by Dimensional Fund Advisors LP.

Five-year rolling equity premium is computed as the five-year annualized compound return on the Fama/French Total US Market Index minus the five-year annualized compound return of the one-month US Treasury Bill. Five-year rolling size premium is computed as the five-year annualized compound return on the Dimensional US Small Cap Index minus the five-year annualized compound return on the S&P 500 Index. Five-year rolling relative price premium is computed as the five-year annualized compound return on the Fama/French US Value Index minus the five-year annualized compound return on the Fama/French US Growth Index. The five-year rolling profitability premium is computed as the five-year annualized compound return on the Dimensional US High Profitability Index minus the five-year annualized compound return on the Dimensional US Low Profitability Index. Fama/French indices provided by Ken French. The S&P data is provided by Standard & Poor's Index Services Group. Dimensional indices use CRSP and Compustat data. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. **Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is no guarantee of future results.**

# Historical Observations of Five-Year Premiums

Equity, size, relative price, and profitability: Developed ex US Markets

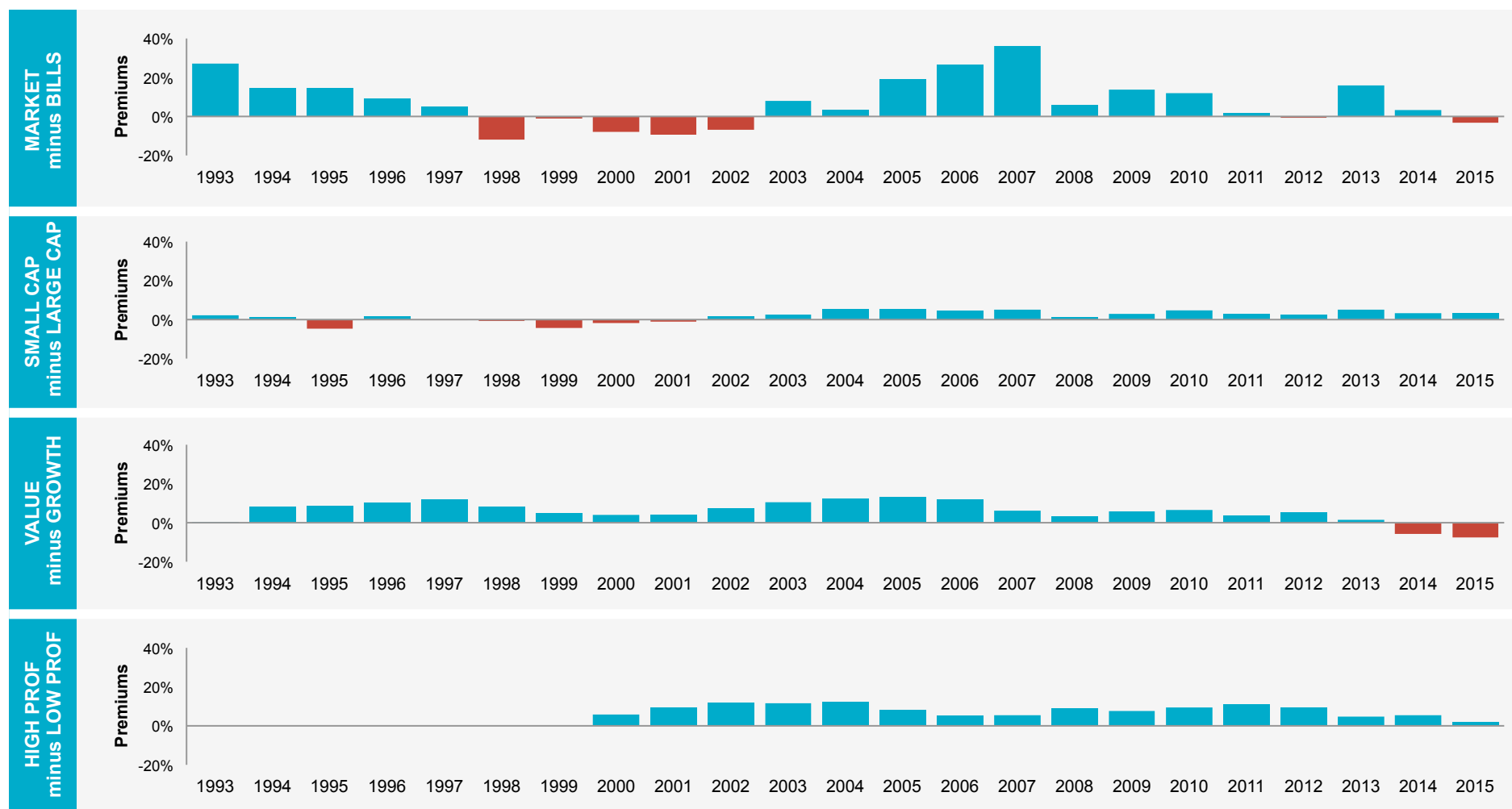


Information provided by Dimensional Fund Advisors LP.

Five-year rolling equity premium is computed as the five-year annualized compound return on the MSCI World ex USA Index (gross dividends) minus the five-year annualized compound return of the one-month US Treasury Bill. Five-year rolling size premium is computed as the five-year annualized compound return on the Dimensional International Small Cap Index minus the five-year annualized compound return on the MSCI World ex USA Index (gross dividends). Five-year rolling relative price premium is computed as the five-year annualized compound return on the Fama/French International Value Index minus the five-year annualized compound return on the Fama/French International Growth Index. The five-year rolling profitability premium is computed as the five-year annualized compound return on the Dimensional International High Profitability Index minus the five-year annualized compound return on the Dimensional International Low Profitability Index. Dimensional indices use Bloomberg data. Fama/French indices provided by Ken French. MSCI data copyright MSCI 2016, all rights reserved. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. **Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is no guarantee of future results.**

# Historical Observations of Five-Year Premiums

Equity, size, relative price, and profitability: Emerging Markets

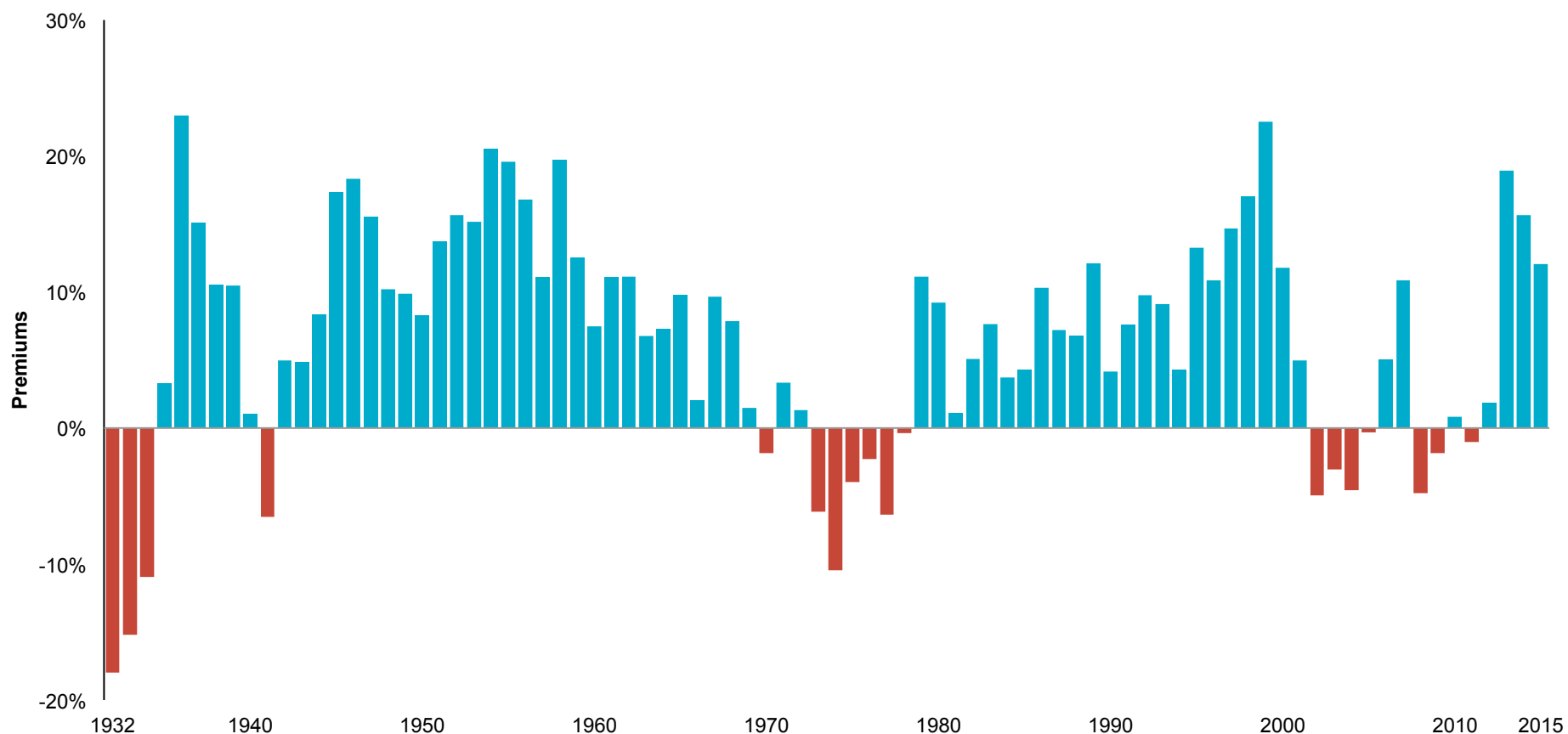


Information provided by Dimensional Fund Advisors LP.

Five-year rolling equity premium is computed as the five-year annualized compound return on the Fama/French Emerging Markets Index minus the five-year annualized compound return of one-month US Treasury Bills. Five-year rolling size premium is computed as the five-year annualized compound return on the Dimensional Emerging Markets Small Cap Index minus the five-year annualized compound return on the MSCI Emerging Markets Index (gross dividends). Five-year rolling relative price premium is computed as the five-year annualized compound return on the Fama/French Emerging Markets Value Index minus the five-year annualized compound return on the Fama/French Emerging Markets Growth Index. The five-year rolling profitability premium is computed as the five-year annualized compound return on the Dimensional Emerging Markets High Profitability Index minus the five-year annualized compound return on the Dimensional Emerging Markets Low Profitability Index. Dimensional indices use Bloomberg data. Fama/French indices provided by Ken French. MSCI data copyright MSCI 2016, all rights reserved. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. **Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is no guarantee of future results.**

# Historical Observations of Five-Year Premiums

Market minus one-month Treasury bills: US Markets  
1932–2015



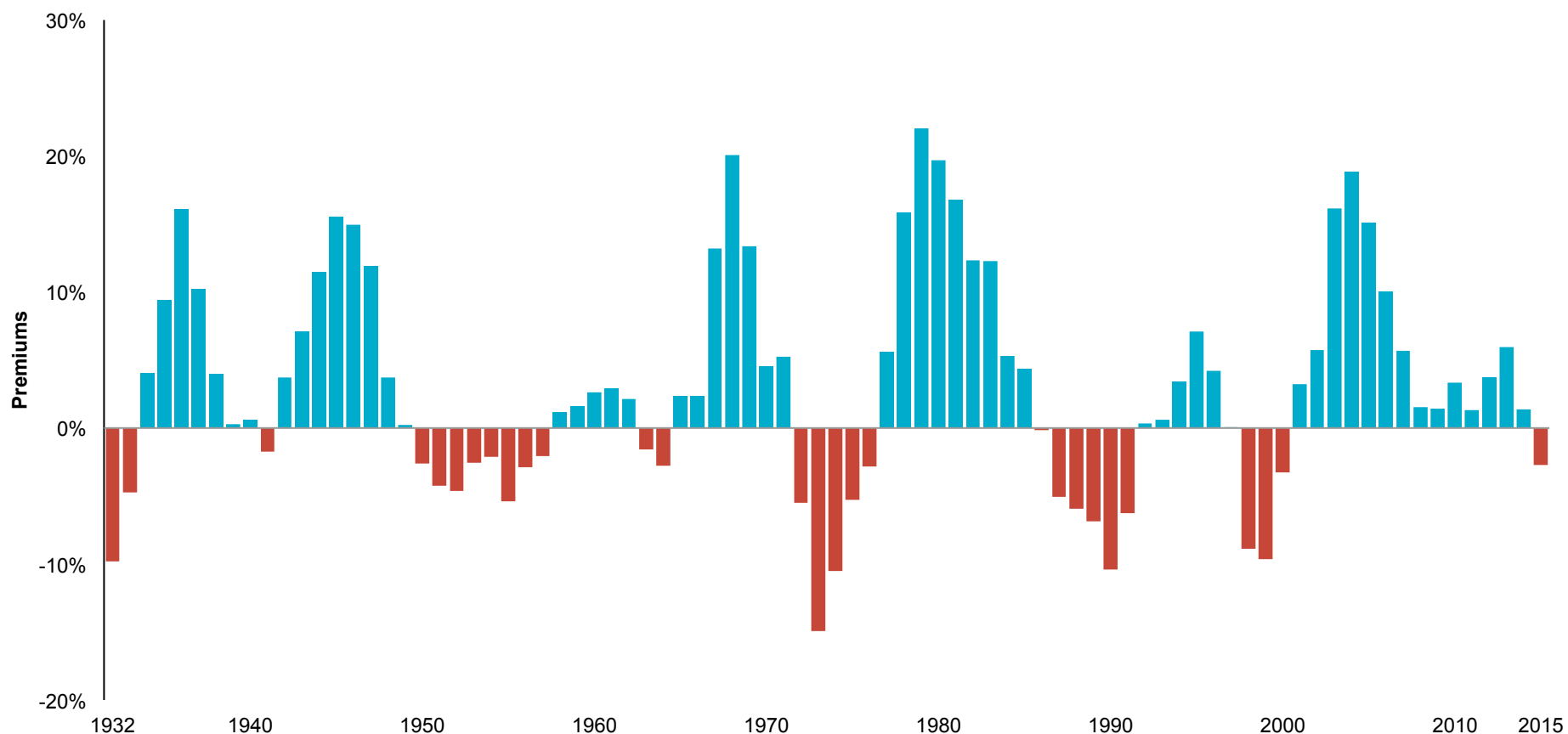
Information provided by Dimensional Fund Advisors LP.

The five-year rolling equity premium is computed as the five-year annualized compound return on the Fama/French Total US Market Index minus the five-year annualized compound return of the one-month US Treasury Bill. Fama/French indices provided by Ken French. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP.

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# Historical Observations of Five-Year Premiums

Small cap minus large cap: US Markets  
1932–2015



Information provided by Dimensional Fund Advisors LP.

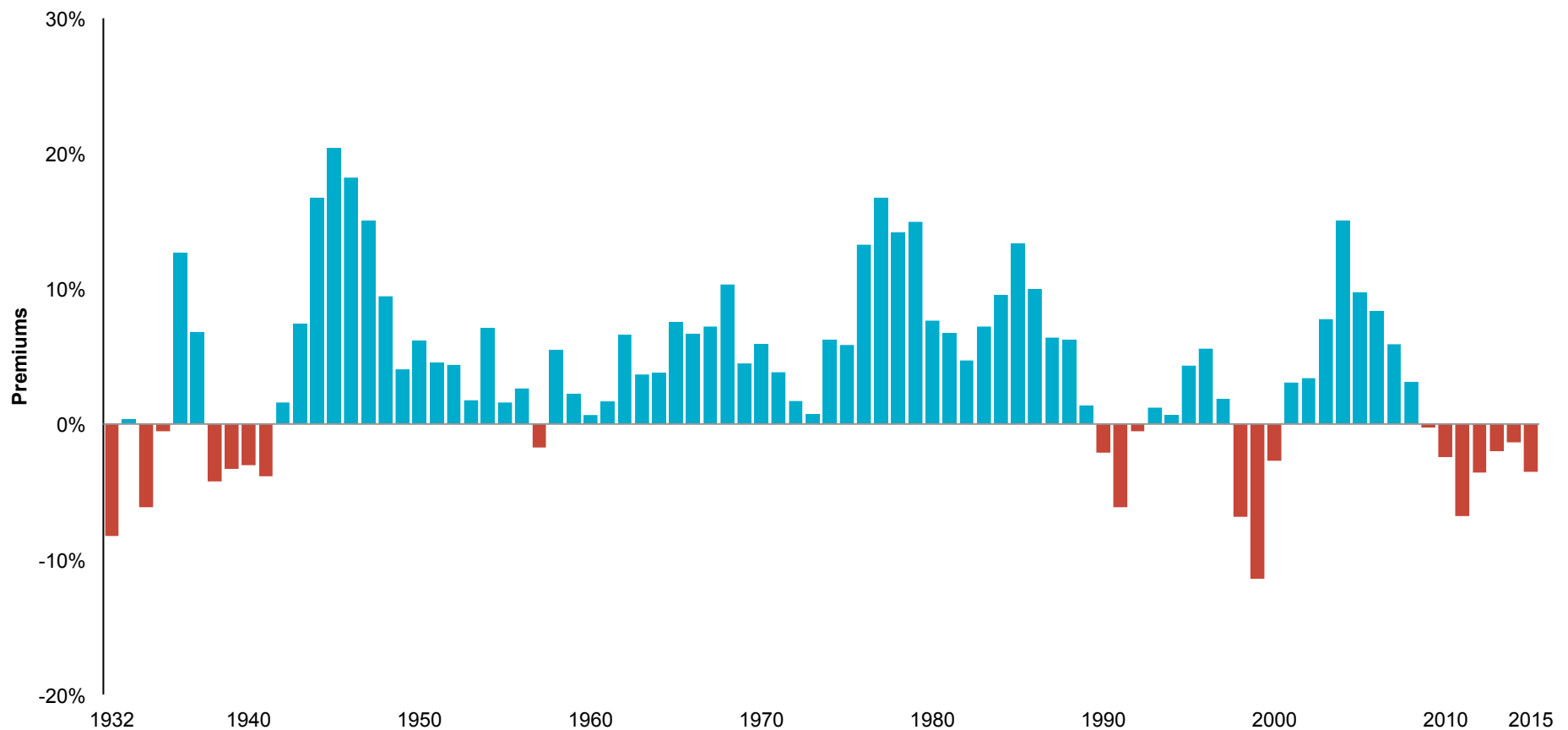
The five-year rolling size premium is computed as the five-year annualized compound return on the Dimensional US Small Cap Index minus the five-year annualized compound return on the S&P 500 Index. Dimensional indices use CRSP and Compustat data. The S&P data are provided by Standard & Poor's Index Services Group. Index descriptions available upon request.

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# Historical Observations of Five-Year Premiums

Value minus growth: US Markets  
1932–2015



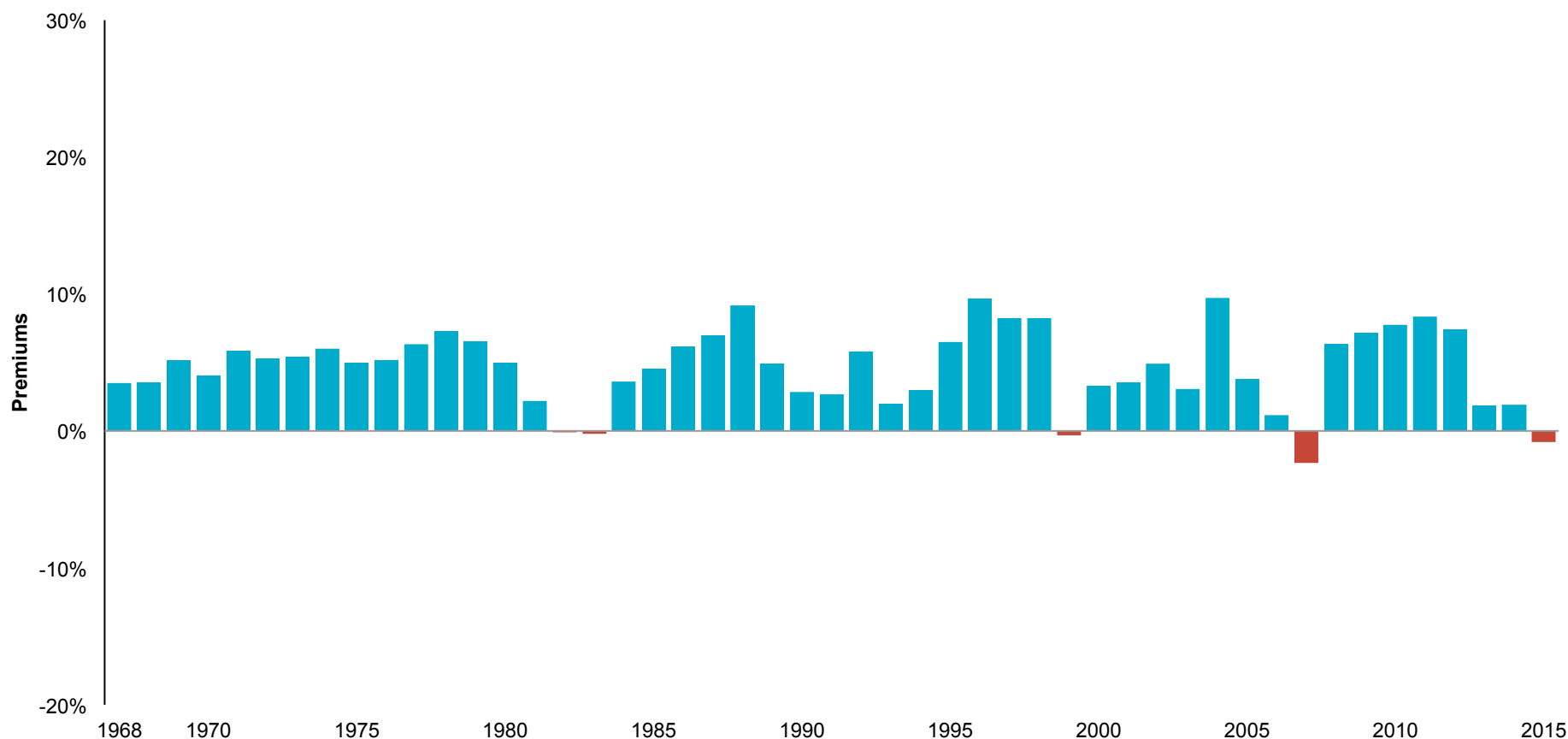
Information provided by Dimensional Fund Advisors LP.

The five-year rolling relative price premium is computed as the five-year annualized compound return on the Fama/French US Value Index minus the five-year annualized compound return on the Fama/French US Growth Index. Fama/French indices provided by Ken French. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP.

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# Historical Observations of Five-Year Premiums

High profitability minus low profitability: US Markets  
1968–2015



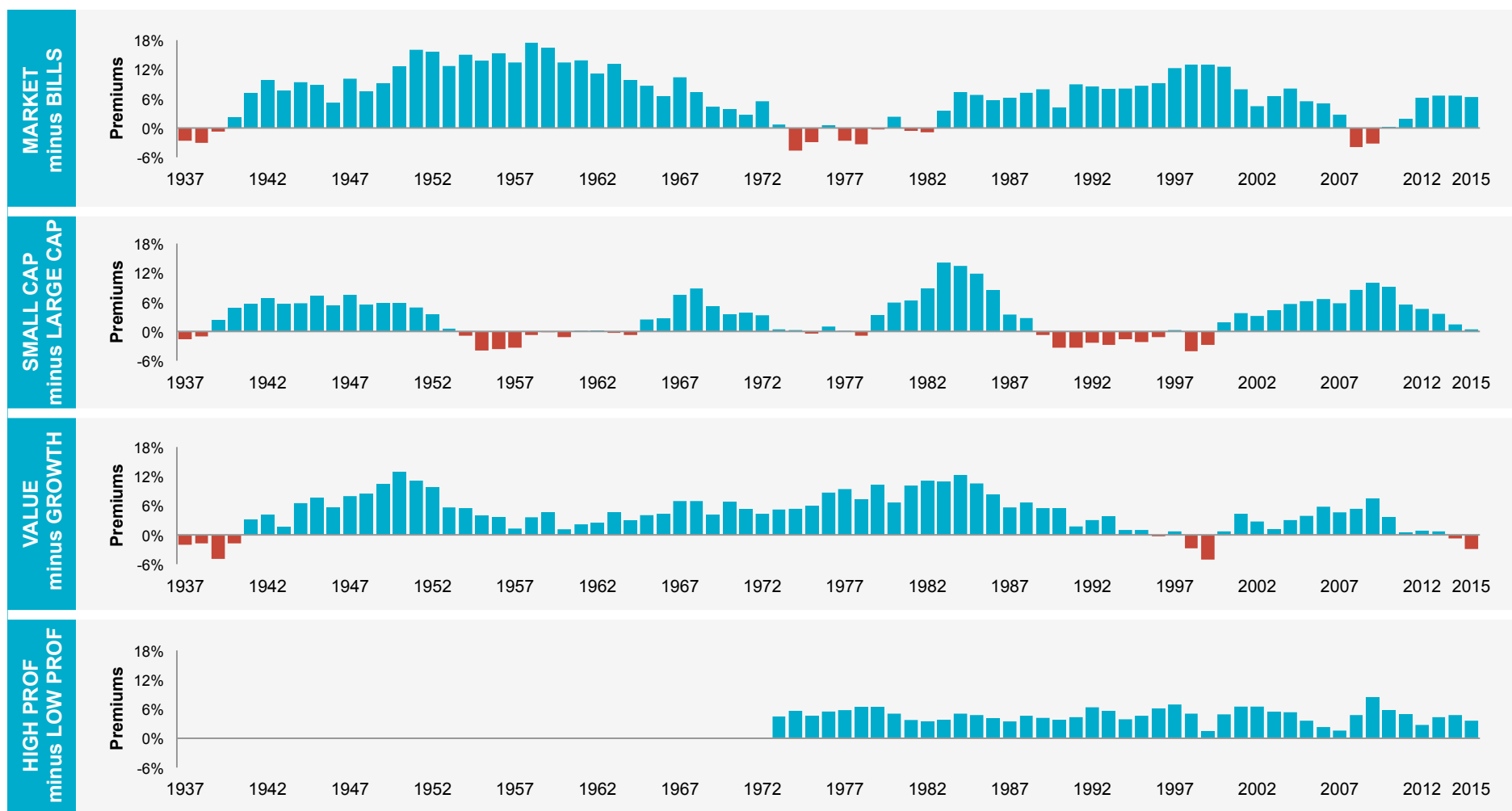
Information provided by Dimensional Fund Advisors LP.

The five-year rolling profitability premium is computed as the five-year annualized compound return on the Dimensional US High Profitability Index minus the five-year annualized compound return on the Dimensional US Low Profitability Index. Dimensional indices use CRSP and Compustat data. Index descriptions available upon request.

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# Historical Observations of 10-Year Premiums

Equity, size, relative price, and profitability: US Markets

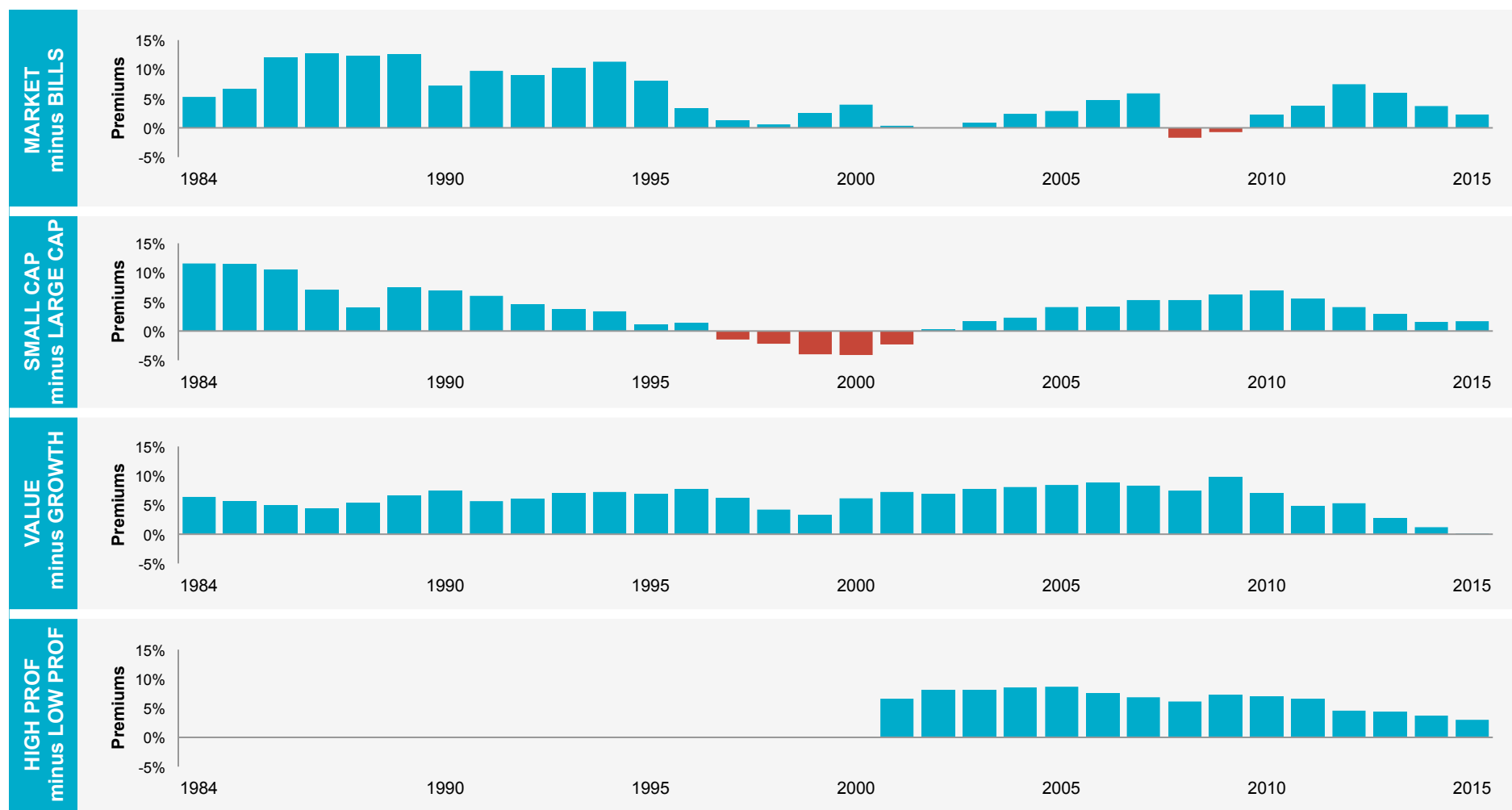


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10-year rolling equity premium is computed as the 10-year annualized compound return on the Fama/French Total US Market Index minus the 10-year annualized compound return of the one-month US Treasury Bill. 10-year rolling size premium is computed as the 10-year annualized compound return on the Dimensional US Small Cap Index minus the 10-year annualized compound return on the S&P 500 Index. 10-year rolling relative price premium is computed as the 10-year annualized compound return on the Fama/French US Value Index minus the 10-year annualized compound return on the Fama/French US Growth Index. The 10-year rolling profitability premium is computed as the 10-year annualized compound return on the Dimensional US High Profitability Index minus the 10-year annualized compound return on the Dimensional US Low Profitability Index. Fama/French indices provided by Ken French. The S&P data is provided by Standard & Poor's Index Services Group. Dimensional indices use CRSP and Compustat data. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. **Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is no guarantee of future results.**

# Historical Observations of 10-Year Premiums

Equity, size, relative price, and profitability: Developed ex US Markets



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# Historical Observations of 10-Year Premiums

Equity, size, relative price, and profitability: Emerging Markets

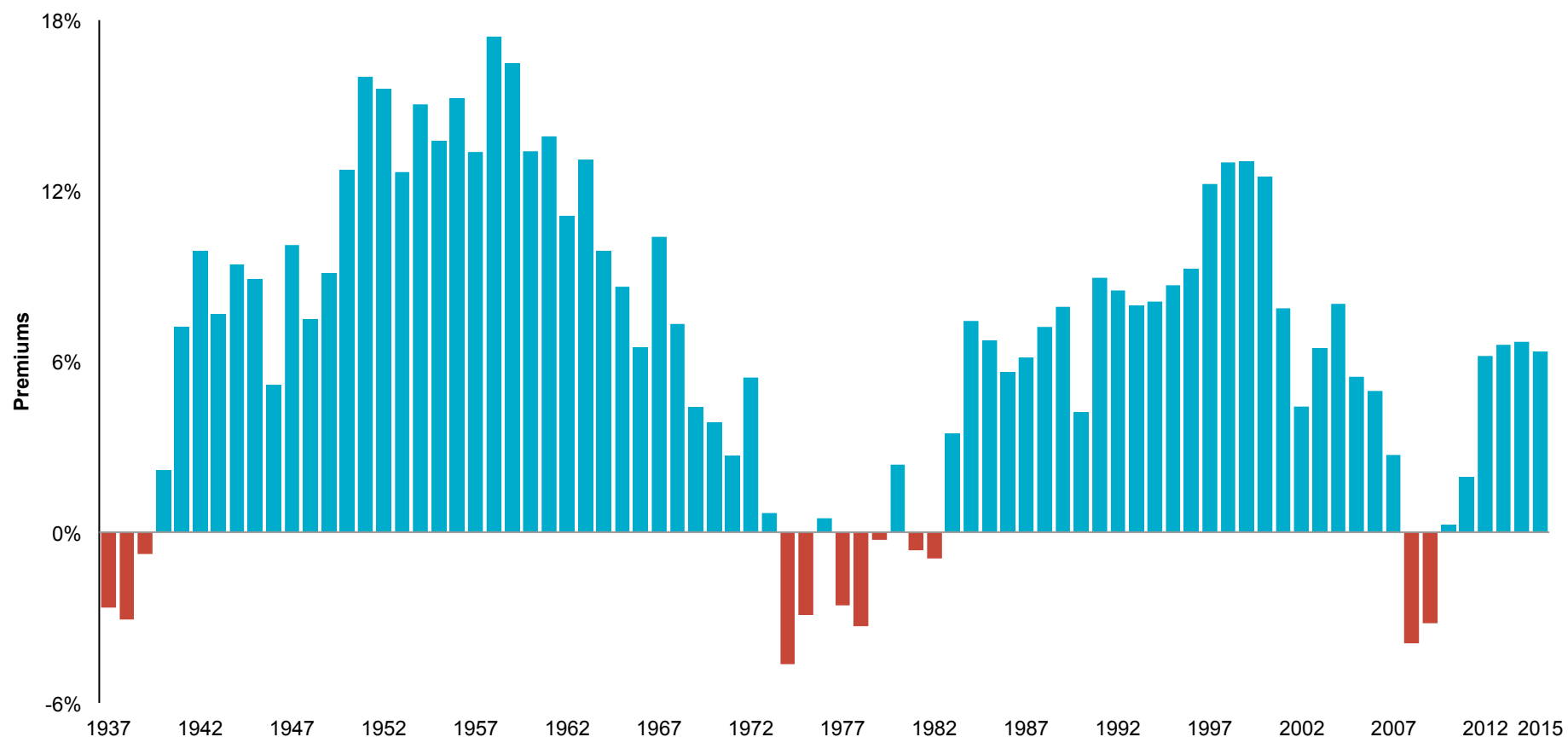


Information provided by Dimensional Fund Advisors LP.

10-year rolling equity premium is computed as the 10-year annualized compound return on the Fama/French Emerging Markets Index minus the 10-year annualized compound return of one-month US Treasury Bills. 10-year rolling size premium is computed as the 10-year annualized compound return on the Dimensional Emerging Markets Small Cap Index minus the 10-year annualized compound return on the MSCI Emerging Markets Index (gross dividends). 10-year rolling relative price premium is computed as the 10-year annualized compound return on the Fama/French Emerging Markets Value Index minus the 10-year annualized compound return on the Fama/French Emerging Markets Growth Index. The 10-year rolling profitability premium is computed as the 10-year annualized compound return on the Dimensional Emerging Markets High Profitability Index minus the 10-year annualized compound return on the Dimensional Emerging Markets Low Profitability Index. Dimensional indices use Bloomberg data. Fama/French indices provided by Ken French. MSCI data copyright MSCI 2016, all rights reserved. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. **Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is no guarantee of future results.**

# Historical Observations of 10-Year Premiums

Market minus one-month Treasury bills: US Markets  
1937–2015



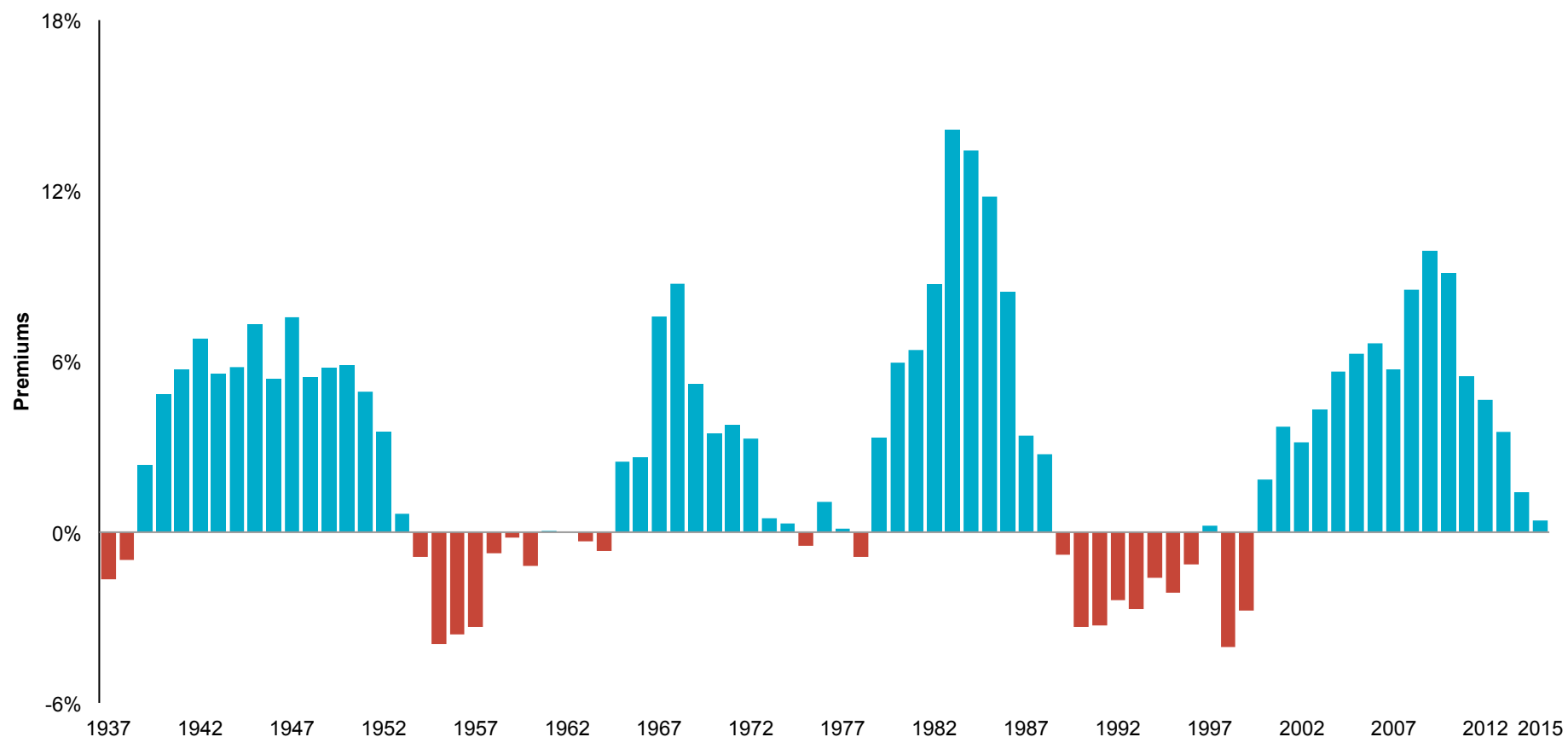
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# Historical Observations of 10-Year Premiums

Small cap minus large cap: US Markets  
1937–2015



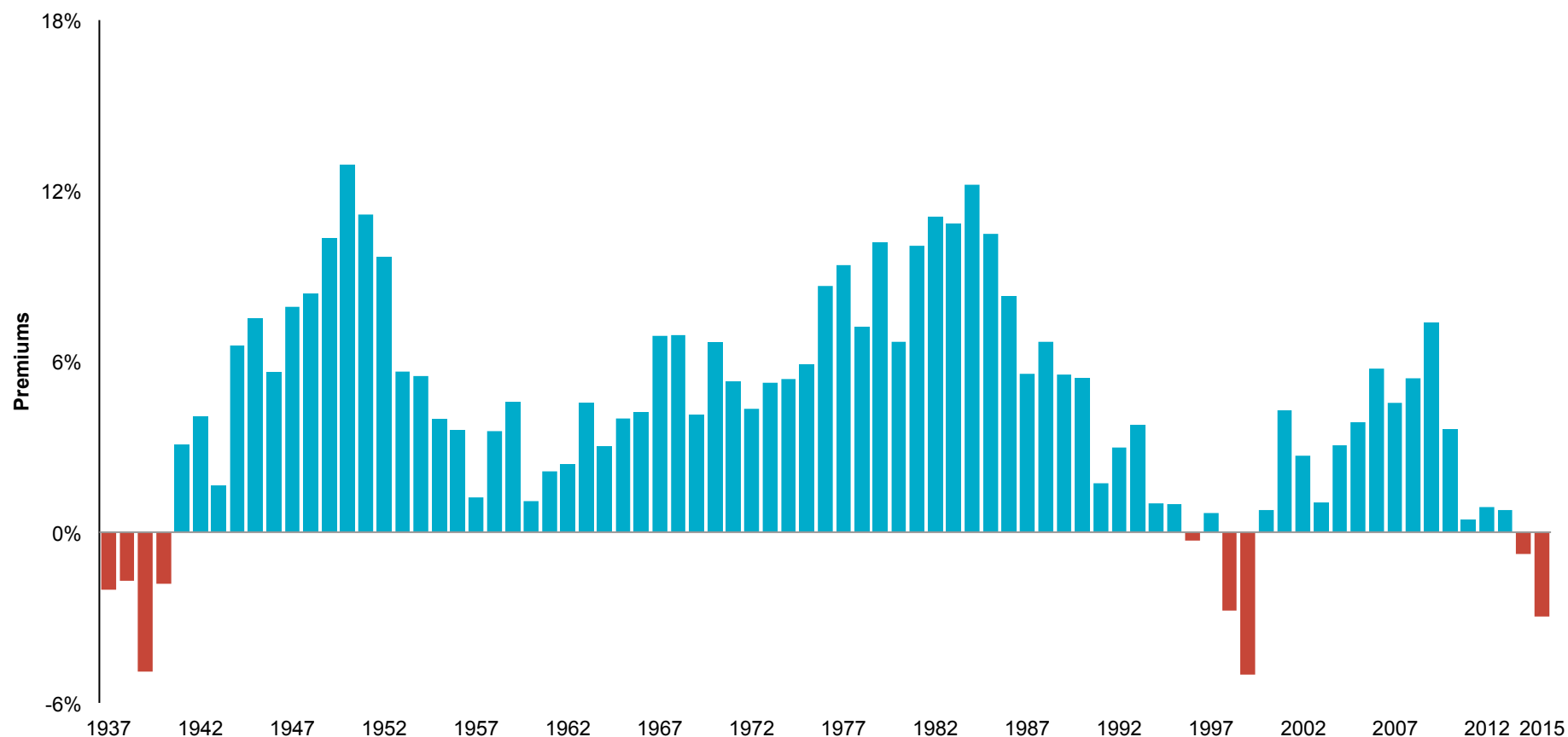
Information provided by Dimensional Fund Advisors LP.

The 10-year rolling size premium is computed as the 10-year annualized compound return on the Dimensional US Small Cap Index minus the 10-year annualized compound return on the S&P 500 Index. Dimensional indices use CRSP and Compustat data. The S&P data are provided by Standard & Poor's Index Services Group. Index descriptions available upon request.

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# Historical Observations of 10-Year Premiums

Value minus growth: US Markets  
1937–2015



Information provided by Dimensional Fund Advisors LP.

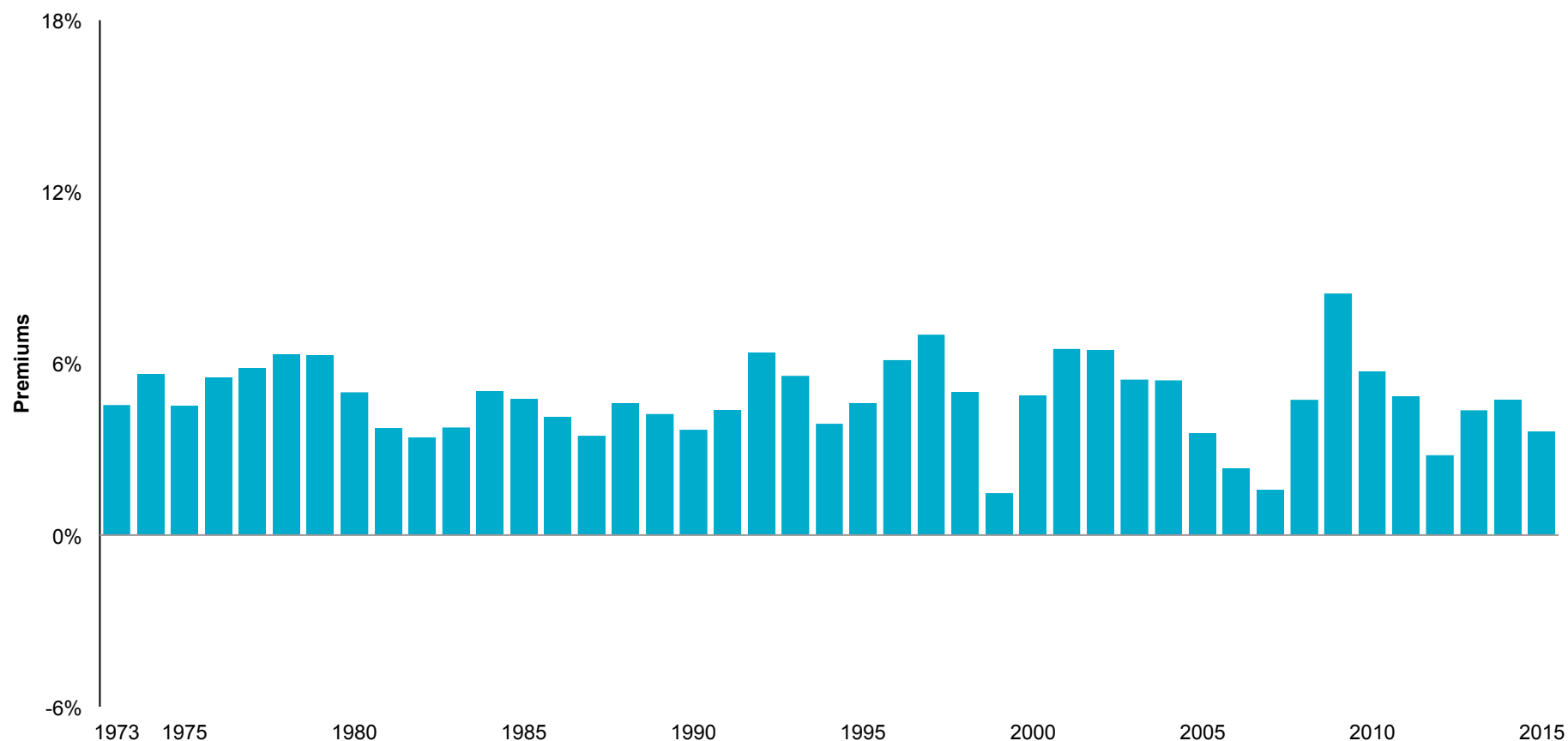
The 10-year rolling relative price premium is computed as the 10-year annualized compound return on the Fama/French US Value Index minus the 10-year annualized compound return on the Fama/French US Growth Index. Fama/French indices provided by Ken French. Index descriptions available upon request. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP.

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# Historical Observations of 10-Year Premiums

High profitability minus low profitability: US Markets  
1973–2015



Information provided by Dimensional Fund Advisors LP.

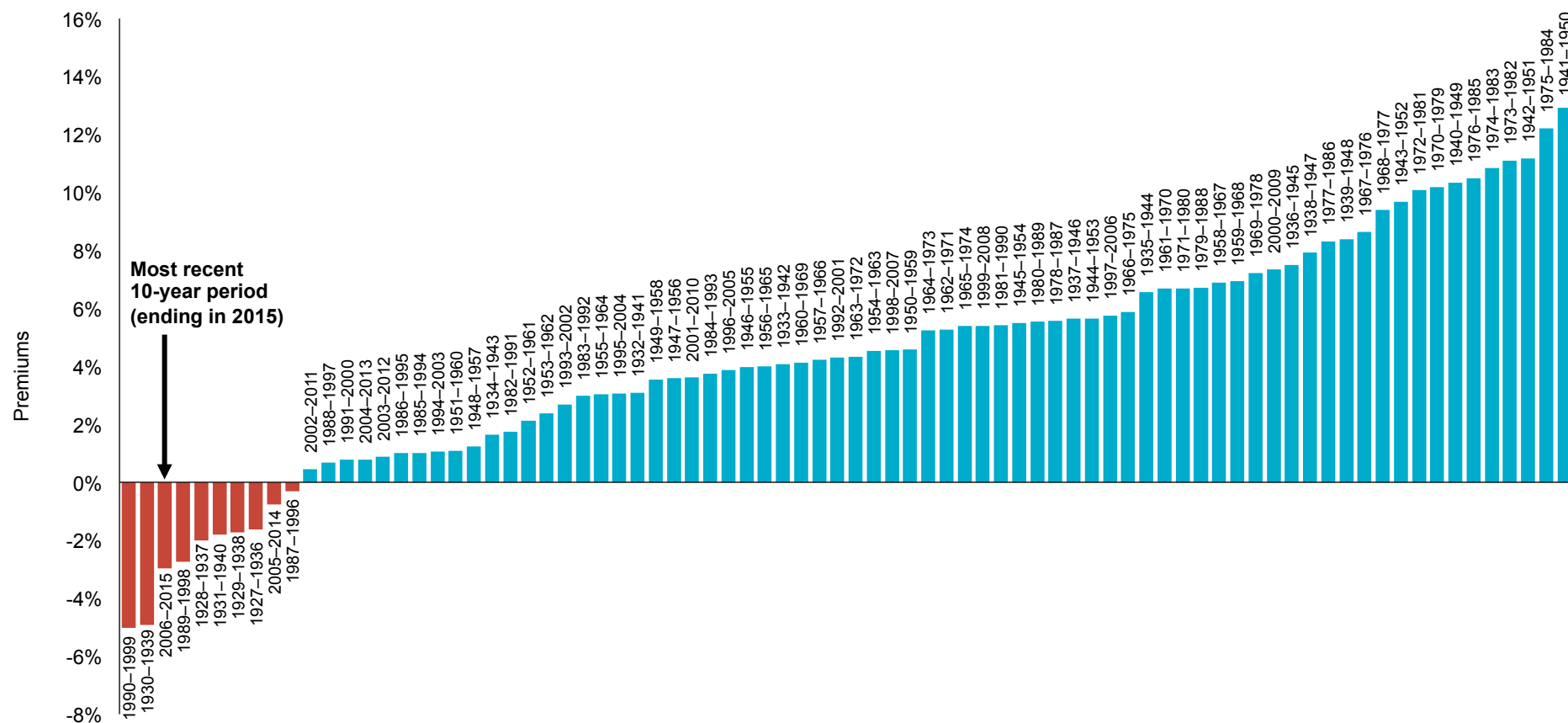
The 10-year rolling profitability premium is computed as the 10-year annualized compound return on the Dimensional US High Profitability Index minus the 10-year annualized compound return on the Dimensional US Low Profitability Index. Dimensional indices use CRSP and Compustat data. Index descriptions available upon request.

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# Historical Observations of 10-Year Premiums

Value minus growth: US Markets  
1937–2015

LOWEST TO HIGHEST



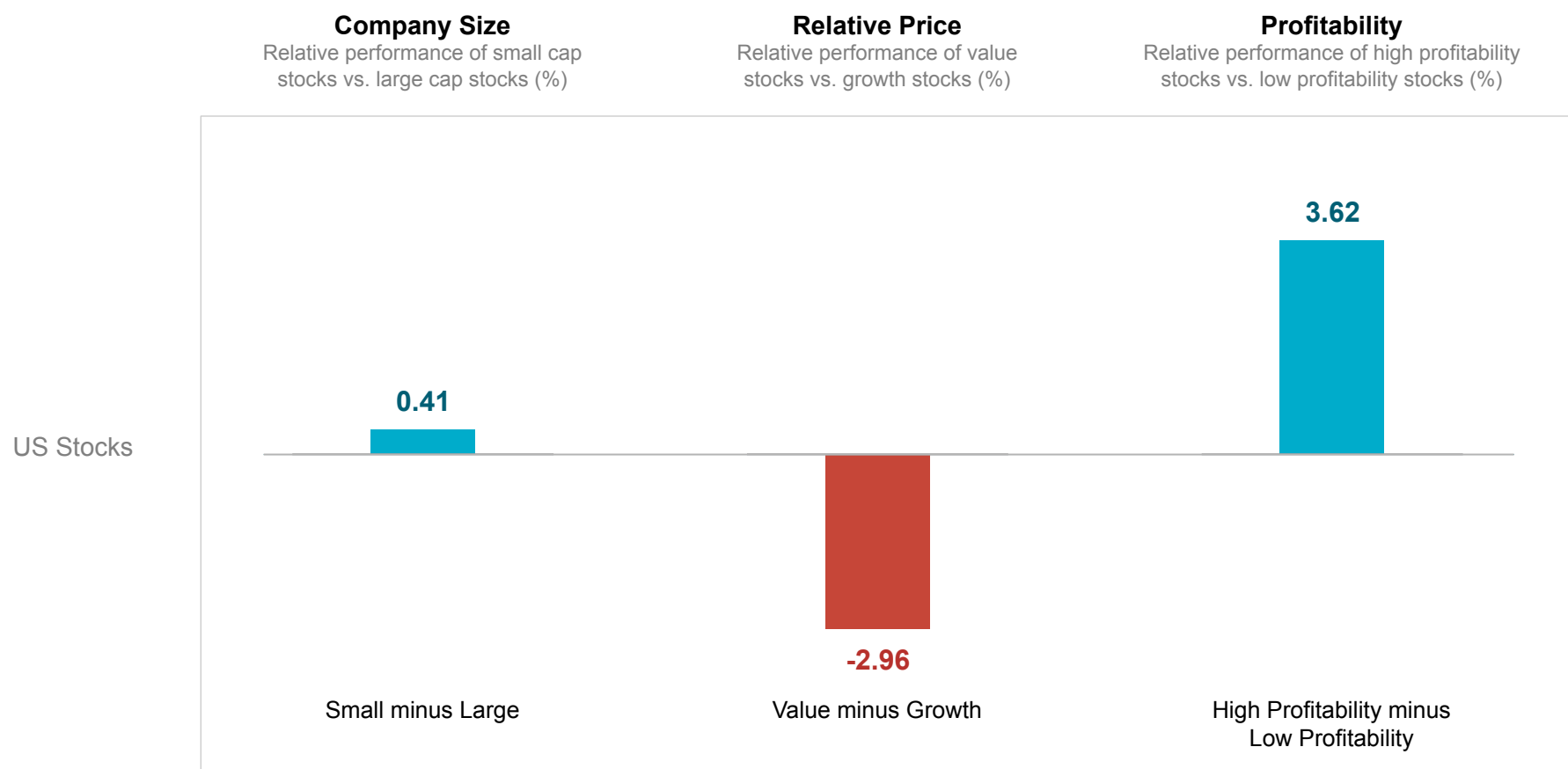
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# Dimensions of Expected Returns

10-year annualized premiums (2006–2015): US Markets












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US size premium: Dimensional US Small Cap Index minus the S&P 500 Index. US relative price premium: Fama/French US Value Index minus the Fama/French US Growth Index. US profitability premium: Dimensional US High Profitability Index minus the Dimensional US Low Profitability Index. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book.

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# Dimensions of Expected Returns

10-year annualized premiums (2006–2015): US, Developed ex US, and Emerging Markets

	US Stocks	Developed ex US Markets Stocks	Emerging Markets Stocks
<b>Company Size</b> Relative performance of small cap stocks vs. large cap stocks (%)	0.41  Small minus Large	1.65  Small minus Large	4.00  Small minus Large
<b>Relative Price</b> Relative performance of value stocks vs. growth stocks (%)	-2.96  Value minus Growth	0.07  Value minus Growth	-1.17  Value minus Growth
<b>Profitability</b> Relative performance of high profitability stocks vs. low profitability stocks (%)	3.62  High Prof. minus Low Prof.	2.95  High Prof. minus Low Prof.	5.43  High Prof. minus Low Prof.

Information provided by Dimensional Fund Advisors LP.

US size premium: Dimensional US Small Cap Index minus S&P 500 Index. US relative price premium: Fama/French US Value Index minus Fama/French US Growth Index. US profitability premium: Dimensional US High Profitability Index minus Dimensional US Low Profitability Index. Dev. ex US size premium: Dimensional Intl. Small Cap Index minus MSCI World ex USA Index (gross div.). Dev. ex US relative price premium: Fama/French International Value index minus Fama/French International Growth Index. Dev. ex US profitability premium: Dimensional International High Profitability Index minus Dimensional International Low Profitability Index. Emerging Markets size premium: Dimensional Emerging Markets Small Cap Index minus MSCI Emerging Markets Index (gross div.). Emerging Markets relative price premium: Fama/French Emerging Markets Value Index minus Fama/French Emerging Markets Growth Index. Emerging Markets profitability premium: Dimensional Emerging Markets High Profitability Index minus Dimensional Emerging Markets Low Profitability Index. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. **Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Index returns are not representative of actual portfolios and do not reflect costs and fees associated with an actual investment. Actual returns may be lower. See "Index Descriptions" for descriptions of Dimensional and Fama/French index data.** Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. The S&P data is provided by Standard & Poor's Index Services Group. MSCI data © MSCI 2016, all rights reserved.

# Historical Performance of Premiums over Rolling Periods

## US Markets

Overlapping Periods: January 1928–December 2015

### MARKET beat T-BILLS

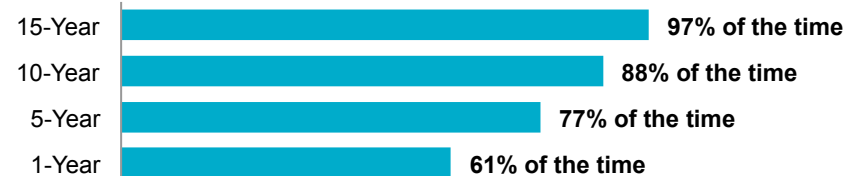


Market is Fama/French Total US Market Index.  
T-Bills is One-Month US Treasury Bills.

There are 877 overlapping 15-year periods, 937 overlapping 10-year periods, 997 overlapping 5-year periods, and 1,045 overlapping 1-year periods.

Overlapping Periods: January 1928–December 2015

### VALUE beat GROWTH

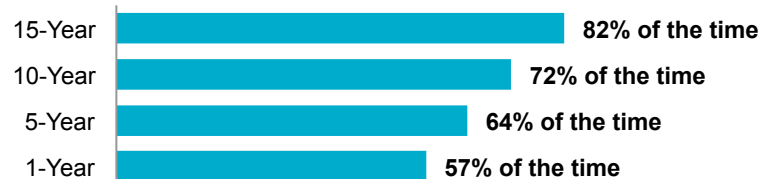


Value is Fama/French US Value Index.  
Growth is Fama/French US Growth Index.

There are 877 overlapping 15-year periods, 937 overlapping 10-year periods, 997 overlapping 5-year periods, and 1,045 overlapping 1-year periods.

Overlapping Periods: January 1928–December 2015

### SMALL beat LARGE



Small is Dimensional US Small Cap Index.  
Large is S&P 500 Index.

There are 877 overlapping 15-year periods, 937 overlapping 10-year periods, 997 overlapping 5-year periods, and 1,045 overlapping 1-year periods.

Overlapping Periods: July 1963–December 2015

### HIGH PROFITABILITY<sup>1</sup> beat LOW PROFITABILITY



High is Dimensional US High Profitability Index.  
Low is Dimensional US Low Profitability Index.

There are 451 overlapping 15-year periods, 511 overlapping 10-year periods, 571 overlapping 5-year periods, and 619 overlapping 1-year periods.

Information provided by Dimensional Fund Advisors LP.

Indices are not available for direct investment. Past performance is not a guarantee of future results.

1. Profitability is a measure of current profitability, based on information from individual companies' income statements.

Based on rolling annualized returns using monthly data. Rolling multiyear periods overlap and are not independent. This statistical dependence must be considered when assessing the reliability of long-horizon return differences.

Dimensional Index data compiled by Dimensional. Fama/French data provided by Fama/French. The S&P data is provided by Standard & Poor's Index Services Group. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. Index descriptions available upon request.

# Historical Performance of Premiums over Rolling Periods

Developed ex US Markets

Overlapping Periods: January 1970–December 2015

## MARKET beat T-BILLS



Market is MSCI World ex USA Index (gross div.).  
T-Bills is One-Month US Treasury Bills.

There are 373 overlapping 15-year periods, 433 overlapping 10-year periods, 493 overlapping 5-year periods, and 541 overlapping 1-year periods.

Overlapping Periods: January 1975–December 2015

## VALUE beat GROWTH



Value is Fama/French International Value Index.  
Growth is Fama/French International Growth Index.

There are 313 overlapping 15-year periods, 373 overlapping 10-year periods, 433 overlapping 5-year periods, and 481 overlapping 1-year periods.

Overlapping Periods: January 1970–December 2015

## SMALL beat LARGE



Small is Dimensional International Small Cap Index.  
Large is MSCI World ex USA Index (gross div.).

There are 373 overlapping 15-year periods, 433 overlapping 10-year periods, 493 overlapping 5-year periods, and 541 overlapping 1-year periods.

Overlapping Periods: July 1991–December 2015

## HIGH PROFITABILITY<sup>1</sup> beat LOW PROFITABILITY



High is Dimensional International High Profitability Index.  
Low is Dimensional International Low Profitability Index.

There are 115 overlapping 15-year periods, 175 overlapping 10-year periods, 235 overlapping 5-year periods, and 283 overlapping 1-year periods.

Information provided by Dimensional Fund Advisors LP.

Indices are not available for direct investment. Past performance is not a guarantee of future results.

1. Profitability is a measure of current profitability, based on information from individual companies' income statements.

Based on rolling annualized returns using monthly data. Rolling multiyear periods overlap and are not independent. This statistical dependence must be considered when assessing the reliability of long-horizon return differences.

Dimensional Index data compiled by Dimensional. Fama/French data provided by Fama/French. MSCI data copyright MSCI 2016, all rights reserved. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. Index descriptions available upon request.

# Historical Performance of Premiums over Rolling Periods

## Emerging Markets

Overlapping Periods: January 1988–December 2015

### MARKET beat T-BILLS

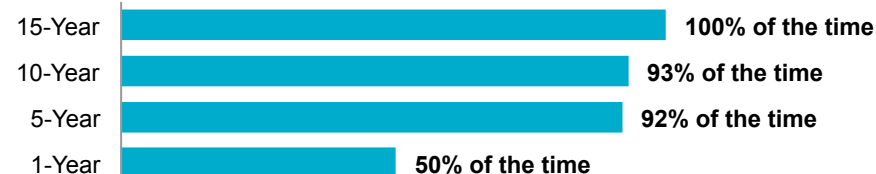


Market is MSCI Emerging Markets Index (gross div.).  
T-Bills is One-Month US Treasury Bills.

There are 157 overlapping 15-year periods, 217 overlapping 10-year periods, 277 overlapping 5-year periods, and 325 overlapping 1-year periods.

Overlapping Periods: January 1989–December 2015

### VALUE beat GROWTH



Value is Fama/French Emerging Markets Value Index.  
Growth is Fama/French Emerging Markets Growth Index.

There are 145 overlapping 15-year periods, 205 overlapping 10-year periods, 265 overlapping 5-year periods, and 313 overlapping 1-year periods.

Overlapping Periods: January 1989–December 2015

### SMALL beat LARGE



Small is Dimensional Emerging Markets Small Cap Index.  
Large is MSCI Emerging Markets Index (gross div.).

There are 145 overlapping 15-year periods, 205 overlapping 10-year periods, 265 overlapping 5-year periods, and 313 overlapping 1-year periods.

Overlapping Periods: July 1995–December 2015

### HIGH PROFITABILITY<sup>1</sup> beat LOW PROFITABILITY



High is Dimensional Emerging Markets High Profitability Index.  
Low is Dimensional Emerging Markets Low Profitability Index.

There are 67 overlapping 15-year periods, 127 overlapping 10-year periods, 187 overlapping 5-year periods, and 235 overlapping 1-year periods.

Information provided by Dimensional Fund Advisors LP.

Indices are not available for direct investment. Past performance is not a guarantee of future results.

1. Profitability is a measure of current profitability, based on information from individual companies' income statements.

Based on rolling annualized returns using monthly data. Rolling multiyear periods overlap and are not independent. This statistical dependence must be considered when assessing the reliability of long-horizon return differences.

Dimensional Index data compiled by Dimensional. Fama/French data provided by Fama/French. MSCI data copyright MSCI 2016, all rights reserved. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. Index descriptions available upon request.

# Index Descriptions

**Dimensional US Small Cap Index** was created by Dimensional in March 2007 and is compiled by Dimensional. It represents a market-capitalization-weighted index of securities of the smallest US companies whose market capitalization falls in the lowest 8% of the total market capitalization of the Eligible Market. The Eligible Market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market. Exclusions: Non-US companies, REITs, UITs, and investment companies. From January 1975 to the present, the index also excludes companies with the lowest profitability and highest relative price within the small cap universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Source: CRSP and Compustat. The index monthly returns are computed as the simple average of the monthly returns of 12 sub-indices, each one reconstituted once a year at the end of a different month of the year. The calculation methodology for the Dimensional US Small Cap Index was amended on January 1, 2014, to include profitability as a factor in selecting securities for inclusion in the index.

**Dimensional US High Profitability Index** was created by Dimensional in January 2014 and represents an index consisting of US companies. It is compiled by Dimensional. Dimensional sorts stocks into three profitability groups from high to low. Each group represents one-third of the market capitalization. Similarly, stocks are sorted into three relative price groups. The intersections of the three profitability groups and the three relative price groups yield nine subgroups formed on profitability and relative price. The index represents the average return of the three high-profitability subgroups. It is rebalanced twice per year. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Source: CRSP and Compustat.

**Dimensional US Low Profitability Index** was created by Dimensional in January 2014 and represents an index consisting of US companies. It is compiled by Dimensional. Dimensional sorts stocks into three profitability groups from high to low. Each group represents one-third of the market capitalization. Similarly, stocks are sorted into three relative price groups. The intersections of the three profitability groups and the three relative price groups yield nine subgroups formed on profitability and relative price. The index represents the average return of the three low-profitability subgroups. It is rebalanced twice per year. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Source: CRSP and Compustat.

**Dimensional International Small Cap Index** was created by Dimensional in April 2008 and is compiled by Dimensional. July 1981–December 1993: It Includes non-US developed securities in the bottom 10% of market capitalization in each eligible country. All securities are market capitalization weighted. Each country is capped at 50%. Rebalanced semiannually. January 1994–Present: Market-capitalization-weighted index of small company securities in the eligible markets excluding those with the lowest profitability and highest relative price within the small cap universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of a different quarter of the year. Prior to July 1981, the index is 50% UK and 50% Japan. The calculation methodology for the Dimensional International Small Cap Index was amended on January 1, 2014, to include profitability as a factor in selecting securities for inclusion in the index.

Information provided by Dimensional Fund Advisors LP.

The Dimensional Indices have been retrospectively calculated by Dimensional Fund Advisors LP and did not exist prior to their index inception dates. Accordingly, results shown during the periods prior to each Index's index inception date do not represent actual returns of the Index. Other periods selected may have different results, including losses. Backtested index performance is hypothetical and is provided for informational purposes only to indicate historical performance had the index been calculated over the relevant time periods. Backtested performance results assume the reinvestment of dividends and capital gains.



# Index Descriptions

**Dimensional International Low Profitability Index** was created by Dimensional in January 2013 and represents an index consisting of non-US developed companies. It is compiled by Dimensional. Dimensional sorts stocks into three profitability groups from high to low. Each group represents one-third of the market capitalization of each eligible country. Similarly, stocks are sorted into three relative price groups. The intersections of the three profitability groups and the three relative price groups yield nine subgroups formed on profitability and relative price. The index represents the average return of the three low-profitability subgroups. The index is rebalanced twice per year. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Source: Bloomberg.

**Dimensional International High Profitability Index** was created by Dimensional in January 2013 and represents an index consisting of non-US developed companies. It is compiled by Dimensional. Dimensional sorts stocks into three profitability groups from high to low. Each group represents one-third of the market capitalization of each eligible country. Similarly, stocks are sorted into three relative price groups. The intersections of the three profitability groups and the three relative price groups yield nine subgroups formed on profitability and relative price. The index represents the average return of the three high-profitability subgroups. The index is rebalanced twice per year. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Source: Bloomberg.

**Dimensional Emerging Markets Low Profitability Index** was created by Dimensional in April 2013 and represents an index consisting of emerging markets companies and is compiled by Dimensional. Dimensional sorts stocks into three profitability groups from high to low. Each group represents one-third of the market capitalization of each eligible country. Similarly, stocks are sorted into three relative price groups. The intersections of the three profitability groups and the three relative price groups yield nine subgroups formed on profitability and relative price. The index

represents the average return of the three low-profitability subgroups. The index is rebalanced twice per year. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Source: Bloomberg.

**Dimensional Emerging Markets High Profitability Index** was created by Dimensional in April 2013 and represents an index consisting of emerging markets companies and is compiled by Dimensional. Dimensional sorts stocks into three profitability groups from high to low. Each group represents one-third of the market capitalization of each eligible country. Similarly, stocks are sorted into three relative price groups. The intersections of the three profitability groups and the three relative price groups yield nine subgroups formed on profitability and relative price. The index represents the average return of the three high-profitability subgroups. The index is rebalanced twice per year. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Source: Bloomberg.

**Dimensional Emerging Markets Small Cap Index** was created by Dimensional in April 2008 and is compiled by Dimensional. January 1989–December 1993: Fama/French Emerging Markets Small Cap Index. January 1994–Present: Dimensional Emerging Markets Small Index Composition: Market-capitalization-weighted index of small company securities in the eligible markets excluding those with the lowest profitability and highest relative price within the small cap universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of a different quarter of the year.

Source: Bloomberg. The calculation methodology for the Dimensional Emerging Markets Small Cap Index was amended on January 1, 2014, to include profitability as a factor in selecting securities for inclusion in the index.

Information provided by Dimensional Fund Advisors LP.

The Dimensional Indices have been retrospectively calculated by Dimensional Fund Advisors LP and did not exist prior to their inception date. The index performance for each Index's index inception date do not represent actual returns of the Index. Other periods selected may have different results, including losses. Backtested index performance is hypothetical and is provided for informational purposes only to indicate historical performance had the index been calculated over the relevant time periods. Backtested performance results assume the reinvestment of dividends and capital gains. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP.

# Index Descriptions

**Fama/French US Value Index** Provided by Fama/French from CRSP securities data. Includes the lower 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).

**Fama/French US Growth Index** Provided by Fama/French from CRSP securities data. Includes the higher 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).

**Fama/French International Value Index:** 2008–present: Provided by Fama/French from Bloomberg securities data. Simulated strategy of MSCI EAFE countries in the lower 30% price-to-book range. 1975–2007: Provided by Fama/French from MSCI securities data.

**Fama/French International Growth Index:** 2008–present: Provided by Fama/French from Bloomberg securities data. Simulated strategy of MSCI EAFE countries in the higher 30% price-to-book range. 1975–2007: Provided by Fama/French from MSCI securities data.

**Fama/French Emerging Markets Value Index:** 2009–present: Provided by Fama/French from Bloomberg securities data. Simulated strategy using IFC investable universe countries. Companies in the lower 30% price-to-book range; companies weighted by float-adjusted market cap; countries weighted by country float-adjusted market cap; rebalanced monthly. 1989–2008: Provided by Fama/French from IFC securities data. IFC data provided by International Finance Corporation.

**Fama/French Emerging Markets Growth Index :** 2009–present: Provided by Fama/French from Bloomberg securities data. Simulated strategy using IFC investable universe countries. Companies in the higher 30% price-to-book range; companies weighted by float-adjusted market cap; countries weighted by country float-adjusted market cap; rebalanced monthly. 1989–2008: Provided by Fama/French from IFC securities data. IFC data provided by International Finance Corporation.

Information provided by Dimensional Fund Advisors LP.

Results shown during periods prior to each Index's index inception date do not represent actual returns of the respective index. Other periods selected may have different results, including losses. Backtested index performance is hypothetical and is provided for informational purposes only to indicate historical performance had the index been calculated over the relevant time periods. Backtested performance results assume the reinvestment of dividends and capital gains. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP.