

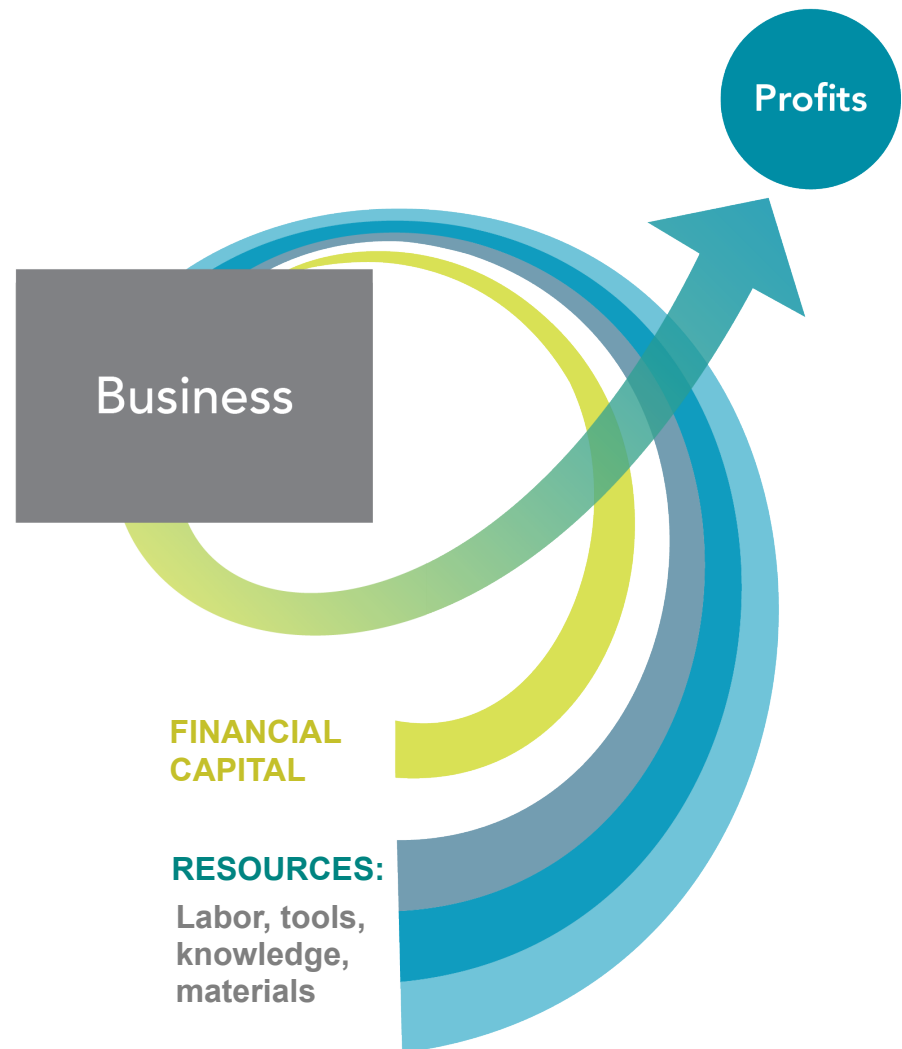
# Dimensions of Returns

- I. Financial Capital Plays a Vital Role in Wealth Creation
- II. Stocks and Bonds Are Conduits for Capital
- III. The Capital Markets Have Rewarded Long-Term Investors
- IV. Markets Compensate Non-Diversifiable Risk
- V. Dimensions Point to Differences in Expected Returns
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# Financial Capital Plays a Vital Role in Wealth Creation

Using financial capital and other resources, a business produces goods or services that can be sold for a profit.

As providers of financial capital, investors expect a return on their money.



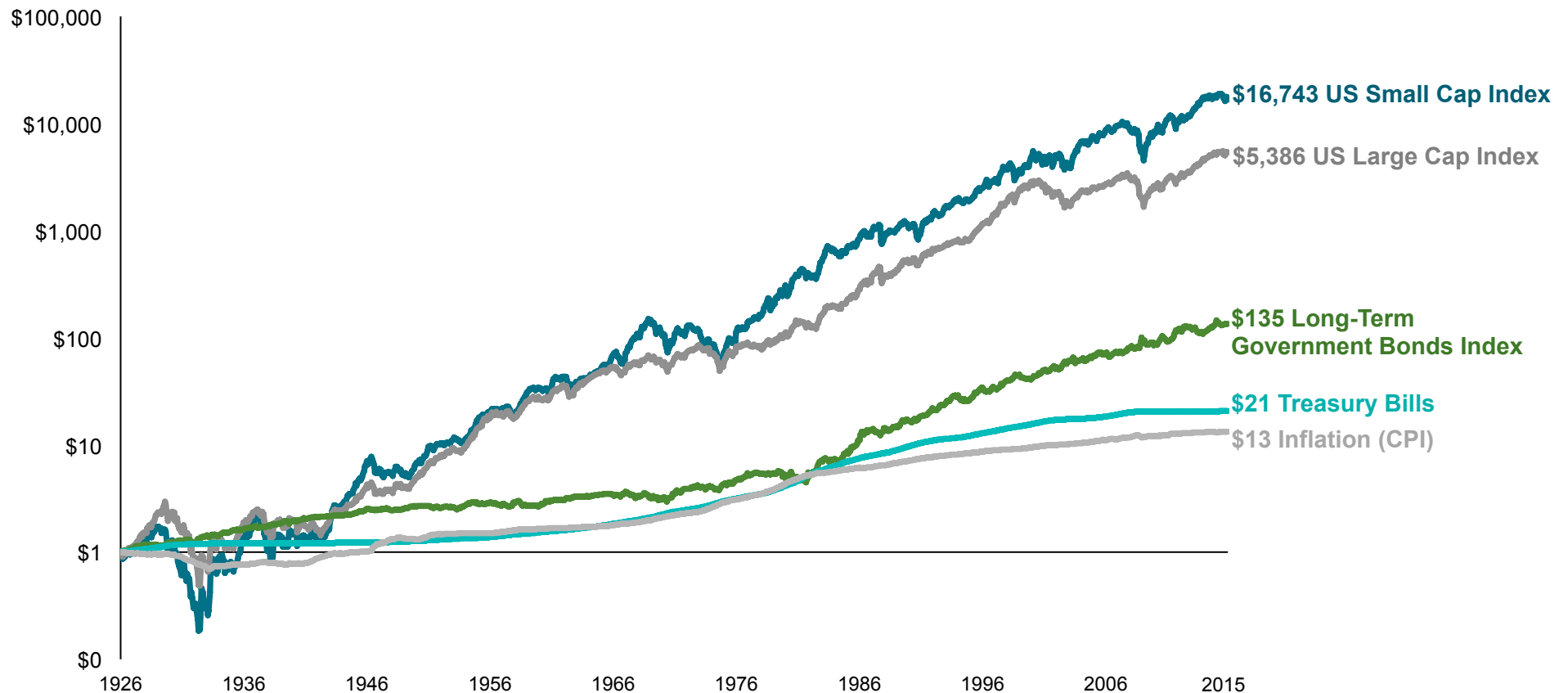
# Stocks and Bonds Are Conduits for Capital



Bondholders are lenders to a company.  
Stockholders are equity owners in the business.  
Both expect an adequate return for the terms  
and risk of their investment.

# The Capital Markets Have Rewarded Long-Term Investors

Monthly growth of wealth (\$1), 1926–2015



In US dollars. 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.** US Small Cap Index is the CRSP 6–10 Index; US Large Cap Index is the S&P 500 Index; Long-Term Government Bonds Index is 20-year US government bonds; Treasury Bills are One-Month US Treasury bills; Inflation is the Consumer Price Index. CRSP data provided by the Center for Research in Security Prices, The S&P data are provided by Standard & Poor's Index Services Group. University of Chicago. Bonds, T-bills, and inflation data © Stocks, Bonds, Bills, and Inflation Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld).

# Markets Compensate Non-Diversifiable Risk

Risk is a complex concept—it is always present, even if it has not been realized, and it cannot be directly observed until it occurs.

The sources of return are directly observable, and decades of academic research have advanced our understanding of them.

Investors balance risk and return by incorporating their expectations and preferences into securities prices.



# Dimensions Point to Differences in Expected Returns

Academic research has identified these dimensions, which are well documented in markets around the world and across different time periods.



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.

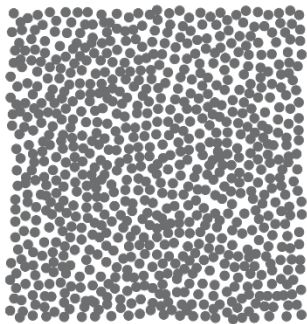
2. Profitability is a measure of current profitability, based on information from individual companies' income statements.

# Portfolios Can Be Structured to Pursue Dimensions

● Company      ●●●● Higher Expected Return  
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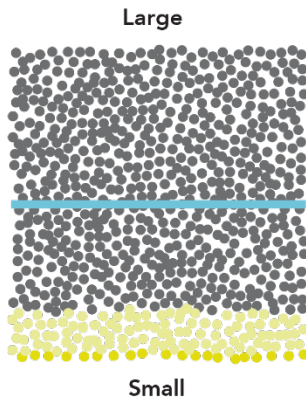
## MARKET

Beta<sup>1</sup>  
(Equity Premium)



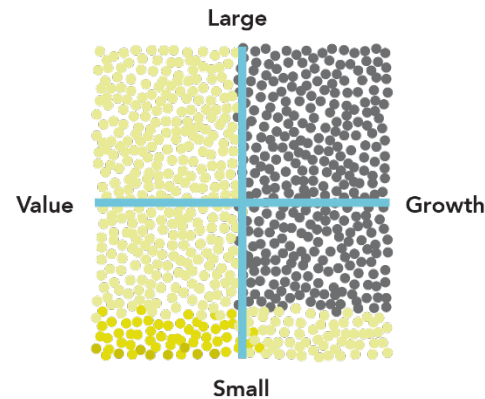
## COMPANY SIZE

Market Cap  
(Small Cap Premium)



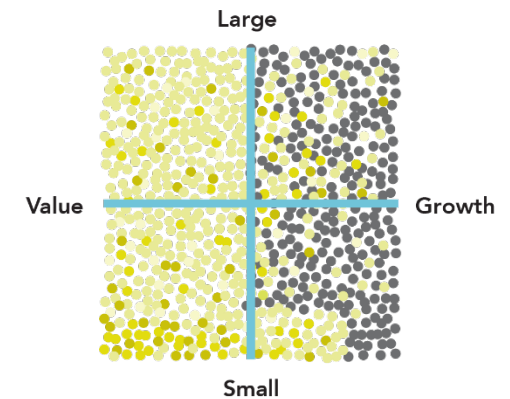
## RELATIVE PRICE

Price-to-Book<sup>2</sup>  
(Value Premium)



## PROFITABILITY

Profitability<sup>3</sup>  
(Profitability Premium)



Investors can pursue higher expected returns through a low-cost, well-diversified portfolio that targets these dimensions.

1. Beta: A quantitative measure of the co-movement of a given stock, mutual fund, or portfolio with the overall market.

2. Price-to-Book Ratio: A company's capitalization divided by its book value. It compares the market's valuation of a company to the value of that company as indicated on its financial statements.

3. Profitability: A measure of a company's current profits. We define this as operating income before depreciation and amortization minus interest expense, scaled by book equity.