

---

# Quarterly Market Review

Second quarter 2023

This information is provided for registered investment advisors and institutional investors and is not intended for public use. Dimensional Fund Advisors LP is an investment advisor registered with the Securities and Exchange Commission.

# Quarterly Market Review

Second quarter 2023

This report features world capital market performance and a timeline of events for the past quarter. It begins with a global overview, then features the returns of stock and bond asset classes in the US and international markets. The report concludes with a quarterly topic.

## Contents

- Market Summary
- World Stock Market Performance
- US Stocks
- International Developed Stocks
- Emerging Markets Stocks
- Country Returns
- Real Estate Investment Trusts (REITs)
- Commodities
- Fixed Income
- Global Fixed Income
- Quarterly Topic: Let the Compounding Commence!

# Market Summary


















Second quarter 2023 index returns

	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate	US Bond Market	Global Bond Market ex US
Q2 2023	STOCKS				BONDS	
	8.39%	3.03%	0.90%	0.71%	-0.84%	0.73%
						
Since Jan. 2001						
Average Quarterly Return	2.3%	1.5%	2.5%	2.2%	0.9%	0.9%
Best Quarter	22.0%	25.9%	34.7%	32.3%	4.6%	4.6%
	<b>2020 Q2</b>	<b>2009 Q2</b>	<b>2009 Q2</b>	<b>2009 Q3</b>	<b>2001 Q3</b>	<b>2008 Q4</b>
Worst Quarter	-22.8%	-23.3%	-27.6%	-36.1%	-5.9%	-4.1%
	<b>2008 Q4</b>	<b>2020 Q1</b>	<b>2008 Q4</b>	<b>2008 Q4</b>	<b>2022 Q1</b>	<b>2022 Q1</b>

**Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio.** Market segment (index representation) as follows: US Stock Market (Russell 3000 Index), International Developed Stocks (MSCI World ex USA Index [net dividends]), Emerging Markets (MSCI Emerging Markets Index [net dividends]), Global Real Estate (S&P Global REIT Index [net dividends]), US Bond Market (Bloomberg US Aggregate Bond Index), and Global Bond Market ex US (Bloomberg Global Aggregate ex-USD Bond Index [hedged to USD]). S&P data © 2023 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2023, all rights reserved. Bloomberg data provided by Bloomberg.

# Long-Term Market Summary

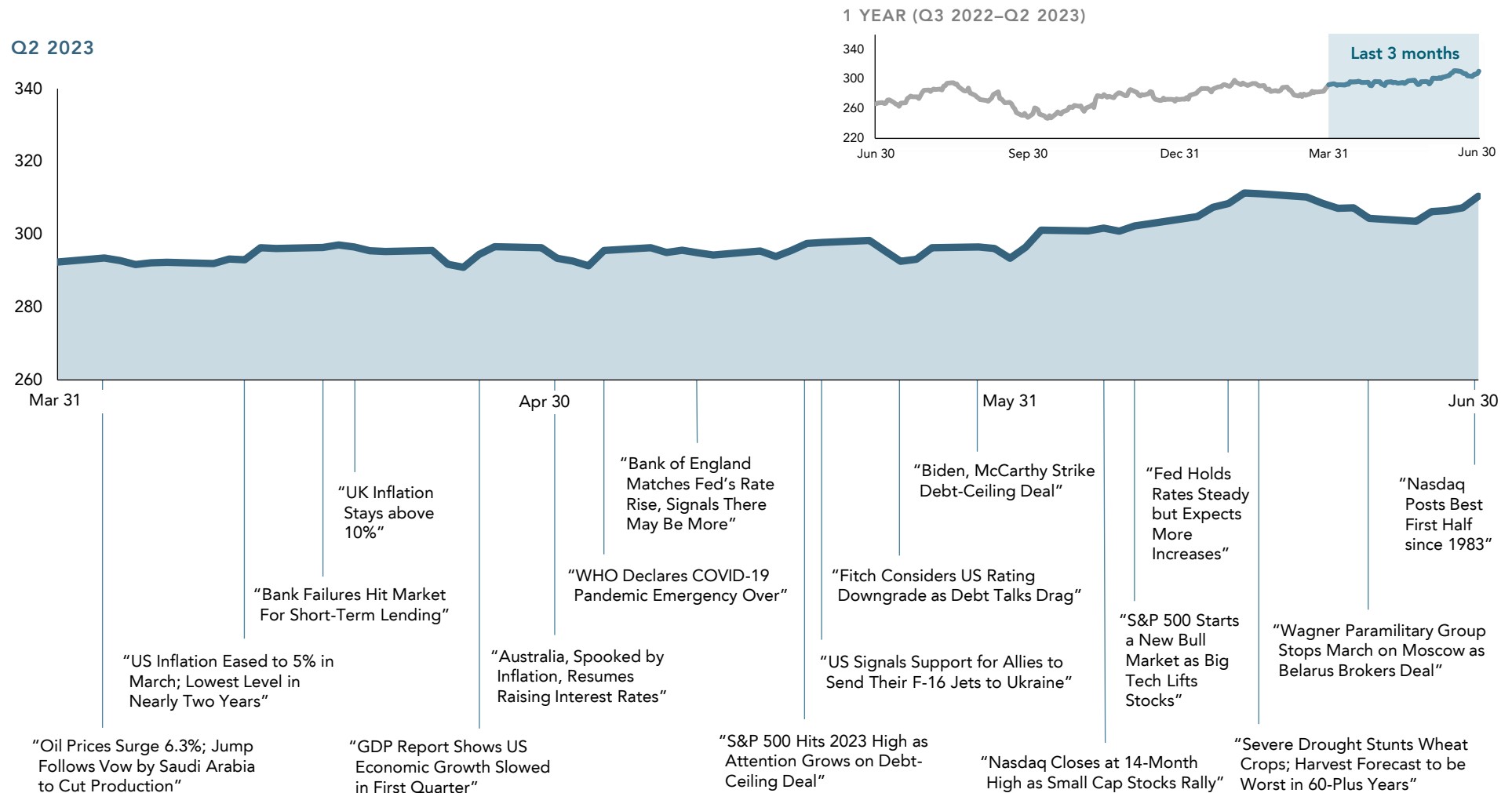
Index returns as of June 30, 2023

	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate	US Bond Market	Global Bond Market ex US
1 Year	STOCKS				BONDS	
	18.95%	17.41%	1.75%	-3.02%	-0.94%	1.51%
						
5 Years						
	11.39%	4.58%	0.93%	1.35%	0.77%	0.95%
						
10 Years						
	12.34%	5.40%	2.95%	3.80%	1.52%	2.48%
						

**Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio.** Market segment (index representation) as follows: US Stock Market (Russell 3000 Index), International Developed Stocks (MSCI World ex USA Index [net dividends]), Emerging Markets (MSCI Emerging Markets Index [net dividends]), Global Real Estate (S&P Global REIT Index [net dividends]), US Bond Market (Bloomberg US Aggregate Bond Index), and Global Bond Market ex US (Bloomberg Global Aggregate ex-USD Bond Index [hedged to USD]). S&P data © 2023 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2023, all rights reserved. Bloomberg data provided by Bloomberg.

# World Stock Market Performance

MSCI All Country World Index with selected headlines from Q2 2023



*These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.*

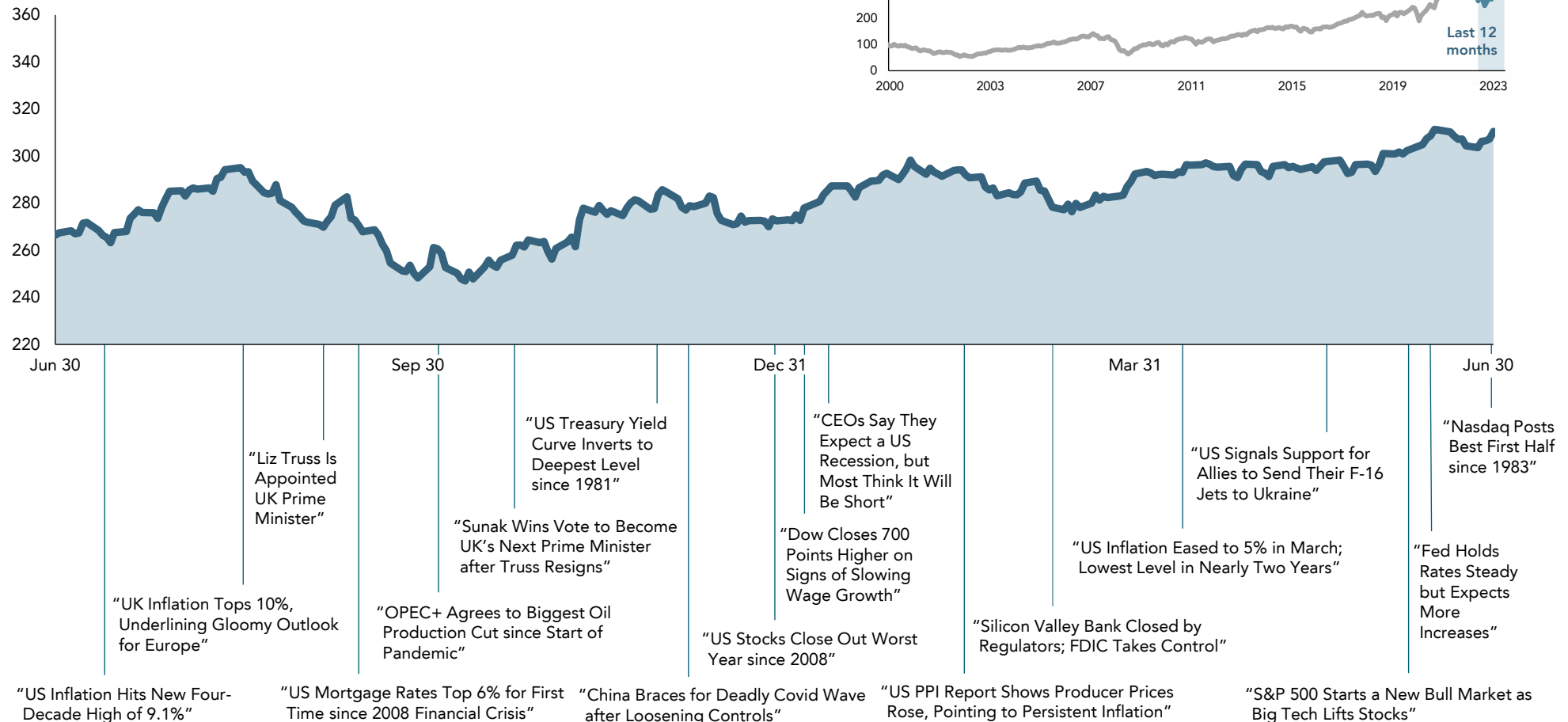
Graph Source: MSCI ACWI Index (net dividends). MSCI data © MSCI 2023, all rights reserved. Index level based at 100 starting January 2000.

It is not possible to invest directly in an index. Performance does not reflect the expenses associated with management of an actual portfolio. **Past performance is not a guarantee of future results.**

# World Stock Market Performance

MSCI All Country World Index with selected headlines from past 12 months

## SHORT TERM (Q3 2022–Q2 2023)



**These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.**

Graph Source: MSCI ACWI Index (net dividends). MSCI data © MSCI 2023, all rights reserved. Index level based at 100 starting January 2000.

It is not possible to invest directly in an index. Performance does not reflect the expenses associated with management of an actual portfolio. **Past performance is not a guarantee of future results.**

# US Stocks

## Second quarter 2023 index returns

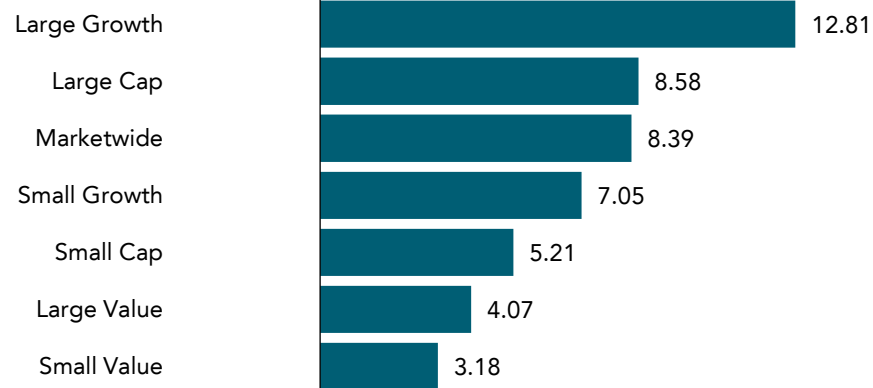
The US equity market posted positive returns for the quarter and outperformed both non-US developed and emerging markets.

Value underperformed growth.

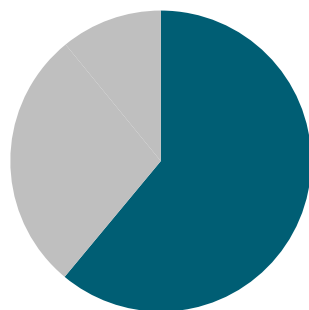
Small caps underperformed large caps.

REIT indices underperformed equity market indices.

### RANKED RETURNS (%)



### WORLD MARKET CAPITALIZATION—US



**61%**  
US Market  
\$43.4 trillion

### PERIOD RETURNS (%)

Asset Class	QTR	YTD	1 Year	Annualized		
				3 Years	5 Years	10 Years
Large Growth	12.81	29.02	27.11	13.73	15.14	15.74
Large Cap	8.58	16.68	19.36	14.09	11.92	12.64
Marketwide	8.39	16.17	18.95	13.89	11.39	12.34
Small Growth	7.05	13.55	18.53	6.10	4.22	8.83
Small Cap	5.21	8.09	12.31	10.82	4.21	8.26
Large Value	4.07	5.12	11.54	14.30	8.11	9.22
Small Value	3.18	2.50	6.01	15.43	3.54	7.29

**Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio.**

Market segment (index representation) as follows: Marketwide (Russell 3000 Index), Large Cap (Russell 1000 Index), Large Value (Russell 1000 Value Index), Large Growth (Russell 1000 Growth Index), Small Cap (Russell 2000 Index), Small Value (Russell 2000 Value Index), and Small Growth (Russell 2000 Growth Index). World Market Cap represented by Russell 3000 Index, MSCI World ex USA IMI Index, and MSCI Emerging Markets IMI Index. Russell 3000 Index is used as the proxy for the US market. Dow Jones US Select REIT Index used as proxy for the US REIT market. MSCI data © MSCI 2023, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.

# International Developed Stocks

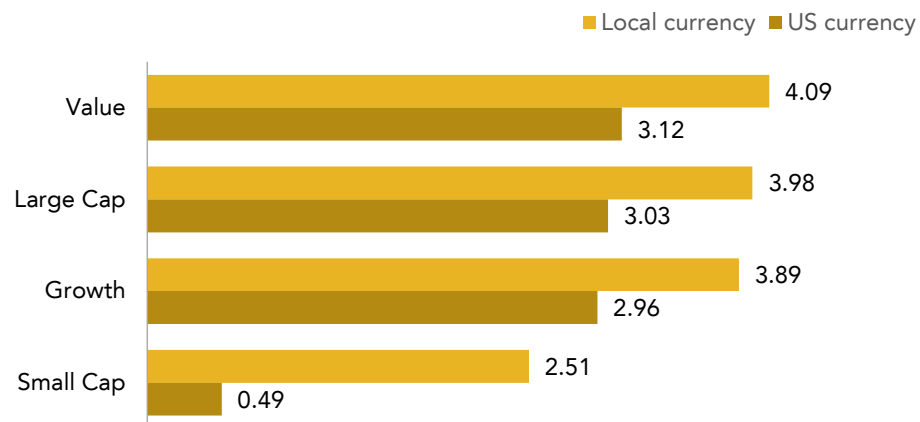
## Second quarter 2023 index returns

Developed markets outside of the US posted positive returns for the quarter and underperformed the US market, but outperformed emerging markets.

Value outperformed growth.

Small caps underperformed large caps.

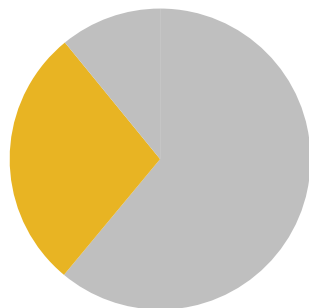
### RANKED RETURNS (%)



### WORLD MARKET CAPITALIZATION—INTERNATIONAL DEVELOPED

**28%**

International  
Developed Market  
\$20.0 trillion



### PERIOD RETURNS (%)

Asset Class	QTR	YTD	1 Year	Annualized		
				3 Years	5 Years	10 Years
Value	3.12	8.92	15.49	12.07	3.24	4.25
Large Cap	3.03	11.29	17.41	9.30	4.58	5.40
Growth	2.96	13.76	19.40	6.24	5.46	6.28
Small Cap	0.49	5.50	10.05	6.42	1.83	5.97

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio.

Market segment (index representation) as follows: Large Cap (MSCI World ex USA Index), Small Cap (MSCI World ex USA Small Cap Index), Value (MSCI World ex USA Value Index), and Growth (MSCI World ex USA Growth Index). All index returns are net of withholding tax on dividends. World Market Cap represented by Russell 3000 Index, MSCI World ex USA IMI Index, and MSCI Emerging Markets IMI Index. MSCI World ex USA IMI Index is used as the proxy for the International Developed market. MSCI data © MSCI 2023, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.



# Emerging Markets Stocks

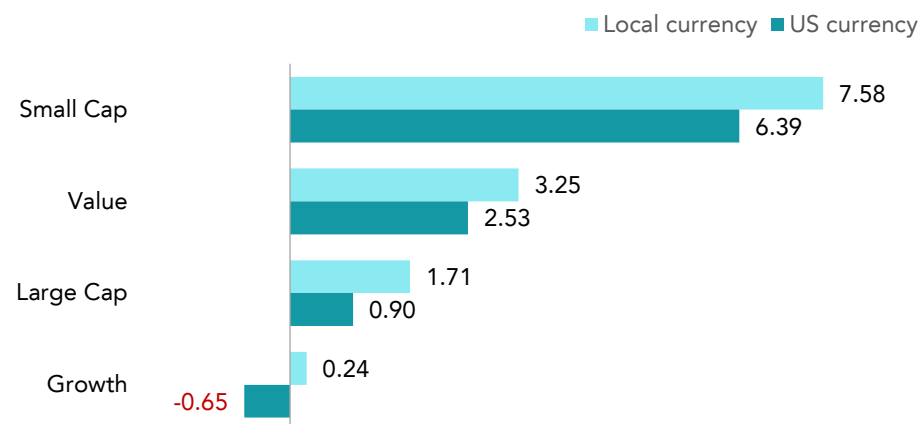
## Second quarter 2023 index returns

Emerging markets posted positive returns for the quarter and underperformed both US and non-US developed markets.

Value outperformed growth.

Small caps outperformed large caps.

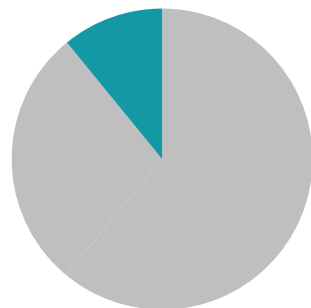
### RANKED RETURNS (%)



### WORLD MARKET CAPITALIZATION—EMERGING MARKETS

**11%**

Emerging Markets  
\$7.8 trillion



### PERIOD RETURNS (%)

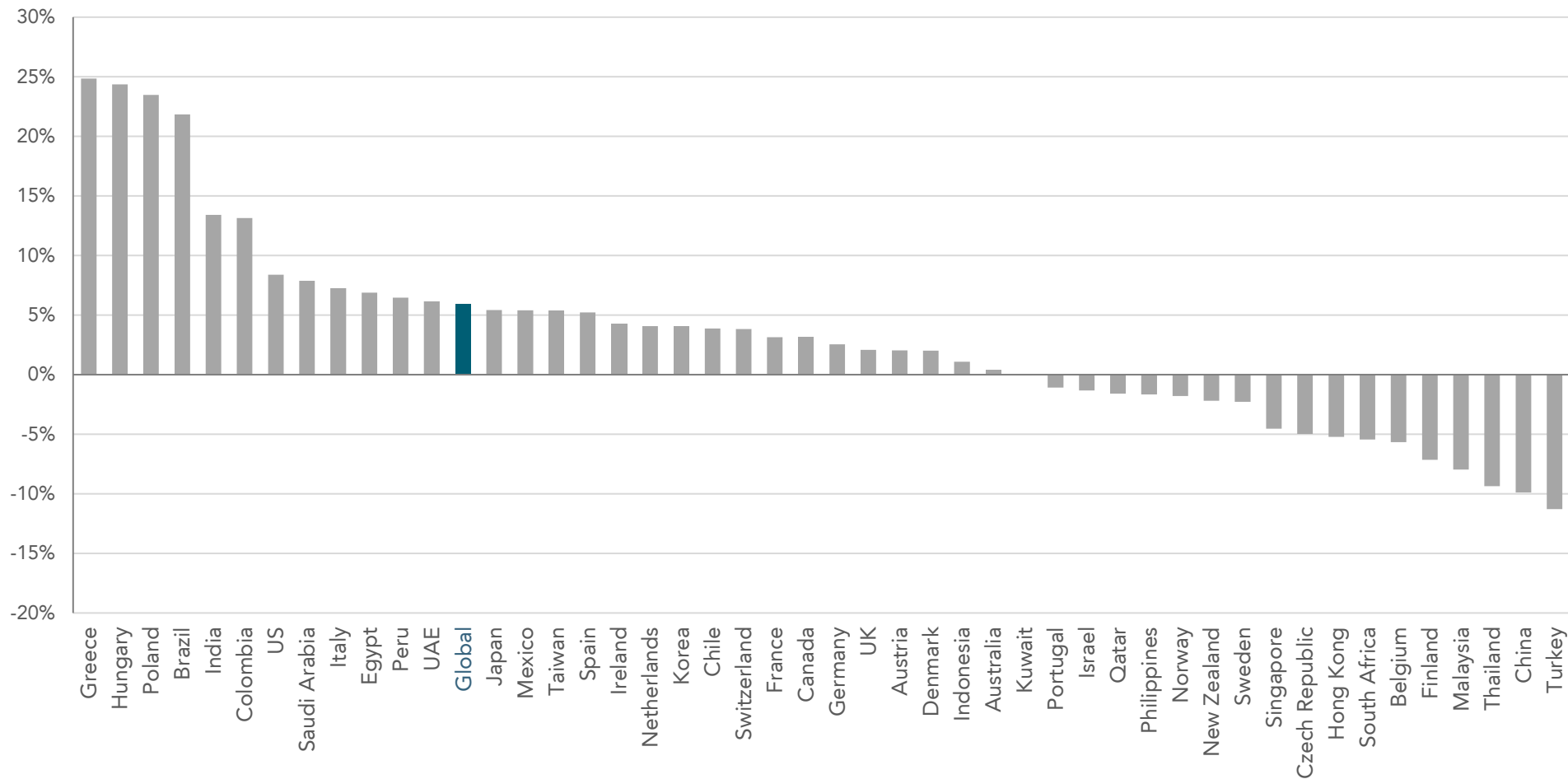
Asset Class	QTR	YTD	1 Year	Annualized		
				3 Years	5 Years	10 Years
Small Cap	6.39	10.50	13.28	13.72	4.93	4.63
Value	2.53	6.53	4.13	6.27	1.22	1.99
Large Cap	0.90	4.89	1.75	2.32	0.93	2.95
Growth	-0.65	3.32	-0.45	-1.36	0.53	3.79

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio.

Market segment (index representation) as follows: Large Cap (MSCI Emerging Markets Index), Small Cap (MSCI Emerging Markets Small Cap Index), Value (MSCI Emerging Markets Value Index), and Growth (MSCI Emerging Markets Growth Index). All index returns are net of withholding tax on dividends. World Market Cap represented by Russell 3000 Index, MSCI World ex USA IMI Index, and MSCI Emerging Markets IMI Index. MSCI Emerging Markets IMI Index used as the proxy for the emerging market portion of the market. MSCI data © MSCI 2023, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.

# Country Returns

Second quarter 2023 index returns



**Past performance is no guarantee of future results.**

Country returns are the country component indices of the MSCI All Country World IMI Index for all countries except the United States, where the Russell 3000 Index is used instead. Global is the return of the MSCI All Country World IMI Index. MSCI index returns are net dividend. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. MSCI data © MSCI 2023, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes.

# Real Estate Investment Trusts (REITs)

## Second quarter 2023 index returns

US real estate investment trusts outperformed non-US REITs during the quarter.

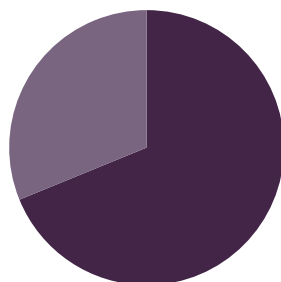
### RANKED RETURNS (%)



### TOTAL VALUE OF REIT STOCKS

**31%**

Global ex US  
\$414 billion  
294 REITs  
(25 other countries)



**69%**

US  
\$914 billion  
111 REITs

### PERIOD RETURNS (%)

Asset Class	QTR	YTD	1 Year	Annualized		
				3 Years	5 Years	10 Years
US REITS	2.92	5.77	-0.69	9.17	3.28	5.75
Global ex US REITS	-2.98	-3.85	-7.02	0.31	-2.61	1.36

**Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio.**

Number of REIT stocks and total value based on the two indices. All index returns are net of withholding tax on dividends. Total value of REIT stocks represented by Dow Jones US Select REIT Index and the S&P Global ex US REIT Index. Dow Jones US Select REIT Index used as proxy for the US market, and S&P Global ex US REIT Index used as proxy for the World ex US market. Dow Jones and S&P data © 2023 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

# Commodities

## Second quarter 2023 index returns

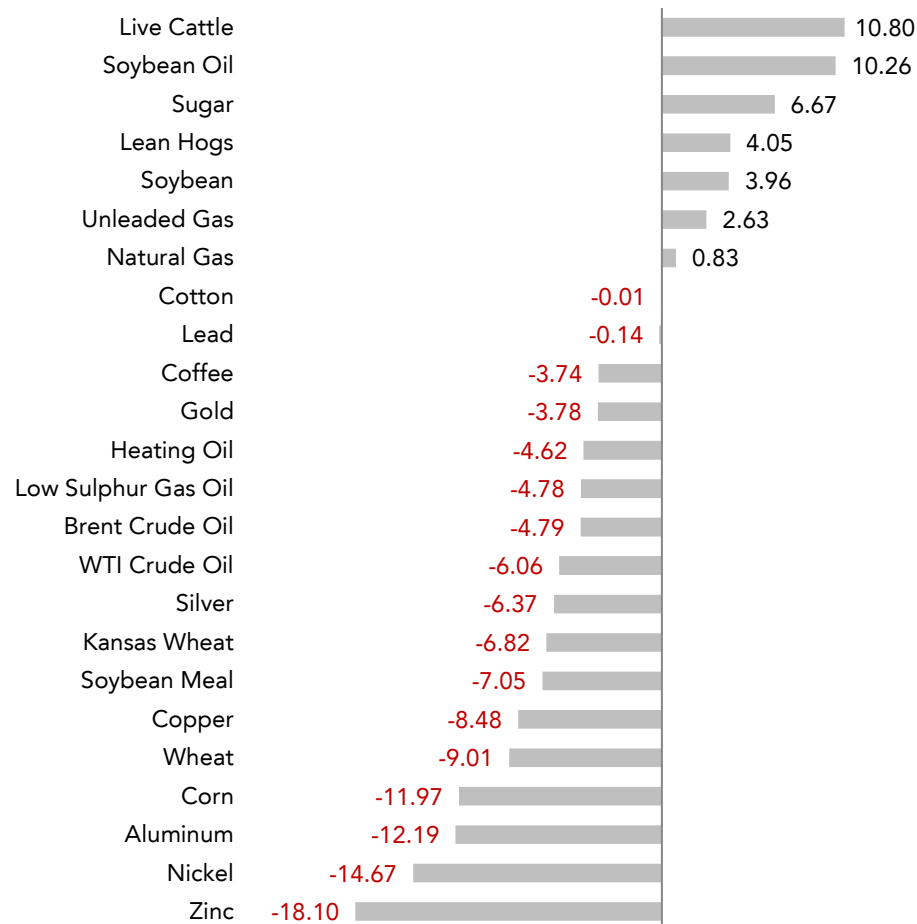
The Bloomberg Commodity Total Return Index returned -2.56% for the second quarter of 2023.

Zinc and Nickel were the worst performers, returning -18.10% and -14.67% during the quarter, respectively. Live Cattle and Soybean Oil were the best performers, returning +10.80% and +10.26% during the quarter, respectively.

### PERIOD RETURNS (%)

Asset Class	QTR	YTD	1 Year	Annualized		
				3 Years	5 Years	10 Years
Commodities	-2.56	-7.79	-9.61	17.82	4.73	-0.99

### RANKED RETURNS (%)



# Fixed Income

## Second quarter 2023 index returns

Interest rates increased across all bond maturities in the US Treasury market for the quarter.

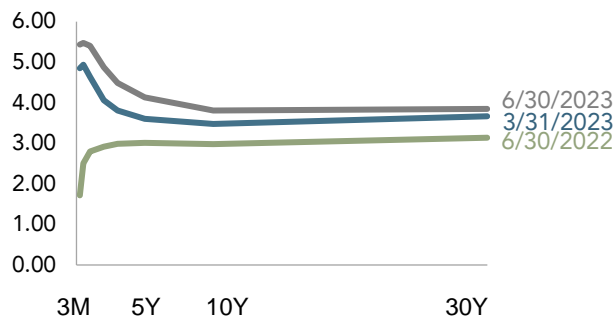
On the short end of the yield curve, the 1-Month US Treasury Bill yield increased 50 basis points (bps) to 5.24%, while the 1-Year US Treasury Bill yield increased 76 bps to 5.40%. The yield on the 2-Year US Treasury Note increased 81 bps to 4.87%.

The yield on the 5-Year US Treasury Note increased 53 bps to 4.13%. The yield on the 10-Year US Treasury Note increased 33 bps to 3.81%. The yield on the 30-Year US Treasury Bond increased 18 bps to 3.85%.

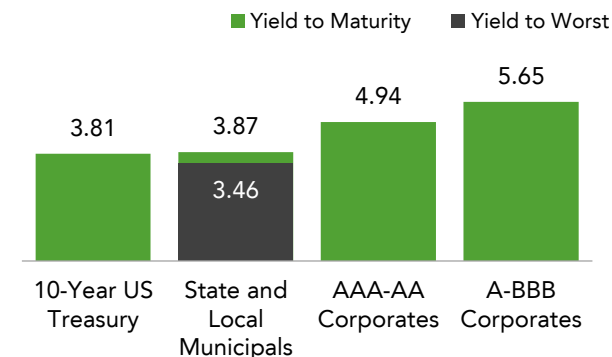
In terms of total returns, short-term US treasury bonds returned -0.90% while intermediate-term US treasury bonds returned -1.15%. Short-term corporate bonds returned +0.07% and intermediate-term corporate bonds returned -0.16%.<sup>1</sup>

The total returns for short- and intermediate-term municipal bonds were -0.37% and -0.72%, respectively. Within the municipal fixed income market, general obligation bonds returned -0.41% while revenue bonds returned +0.04%.<sup>2</sup>

### US TREASURY YIELD CURVE (%)



### BOND YIELD ACROSS ISSUERS (%)



### PERIOD RETURNS (%)

Asset Class	QTR	YTD	1 Year	Annualized		
				3 Years	5 Years	10 Years
Bloomberg U.S. High Yield Corporate Bond Index	1.75	5.38	9.06	3.13	3.36	4.43
ICE BofA US 3-Month Treasury Bill Index	1.17	2.25	3.59	1.27	1.55	0.98
ICE BofA 1-Year US Treasury Note Index	0.42	1.67	1.93	0.23	1.30	0.89
Bloomberg Municipal Bond Index	-0.10	2.67	3.19	-0.58	1.84	2.68
FTSE World Government Bond Index 1-5 Years (hedged to USD)	-0.27	1.53	0.28	-1.15	0.95	1.14
Bloomberg U.S. Aggregate Bond Index	-0.84	2.09	-0.94	-3.96	0.77	1.52
FTSE World Government Bond Index 1-5 Years	-1.19	0.87	-0.27	-2.84	-0.77	-0.67
Bloomberg U.S. TIPS Index	-1.42	1.87	-1.40	-0.12	2.49	2.08
Bloomberg U.S. Government Bond Index Long	-2.29	3.73	-6.79	-12.02	-0.88	1.81

1. Bloomberg US Treasury and US Corporate Bond Indices.

2. Bloomberg Municipal Bond Index.

One basis point (bps) equals 0.01%. **Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio.** Yield curve data from Federal Reserve. State and local bonds, and the Yield to Worst are from the S&P National AMT-Free Municipal Bond Index. AAA-AA Corporates represent the ICE BofA US Corporates, AA-AAA rated. A-BBB Corporates represent the ICE BofA Corporates, BBB-A rated. Bloomberg data provided by Bloomberg. US long-term bonds, bills, inflation, and fixed income factor data © Stocks, Bonds, Bills, and Inflation (S&P) Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld). FTSE fixed income indices © 2023 FTSE Fixed Income LLC, all rights reserved. ICE BofA index data © 2023 ICE Data Indices, LLC. S&P data © 2023 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Bloomberg data provided by Bloomberg.

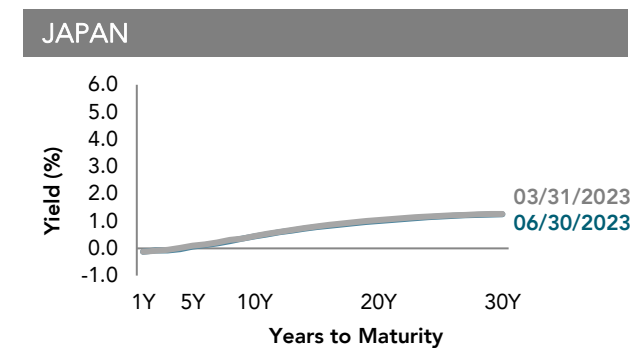
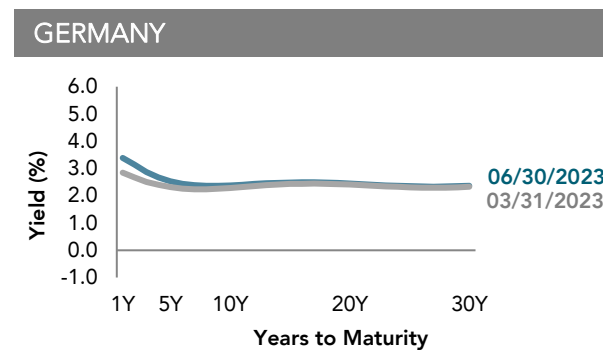
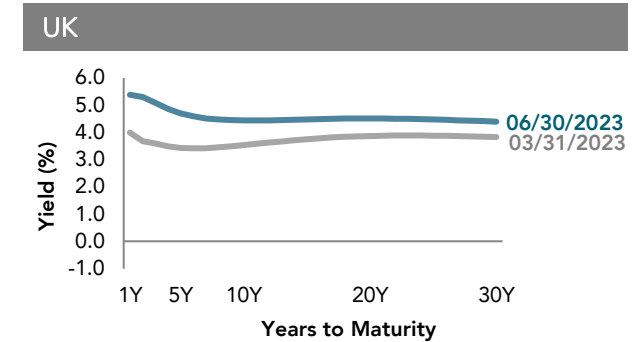
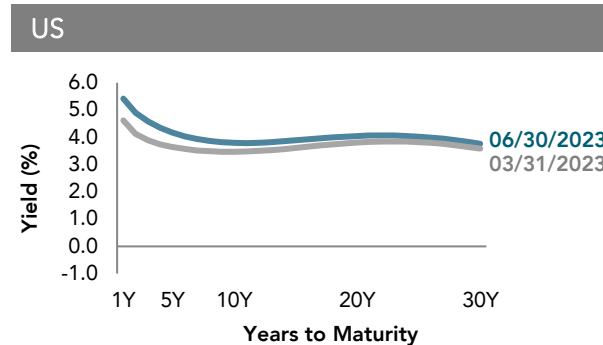
# Global Fixed Income

## Second quarter 2023 yield curves

With the exception of Japan, interest rates generally increased across global developed markets for the quarter.

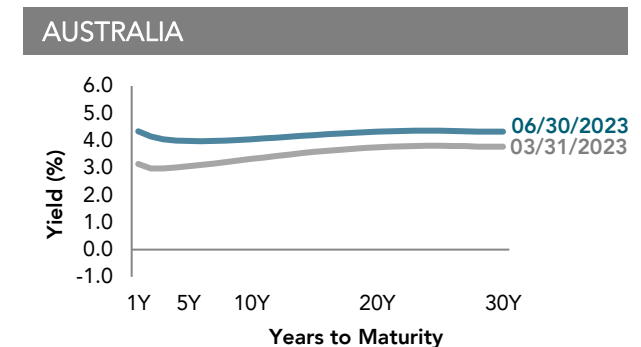
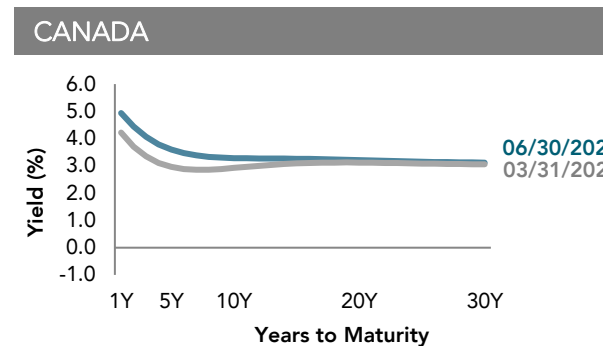
Realized term premiums were broadly negative across global developed markets.

In Japan, ultrashort-term nominal interest rates were negative. In the UK, Germany, Canada, and Australia, the short-term segment of the yield curve was inverted.



### CHANGES IN YIELDS (BPS) SINCE 03/31/2023

	1Y	5Y	10Y	20Y	30Y
US	79.6	53.1	32.5	23.9	18.1
UK	138.7	127.0	90.6	64.2	56.6
Germany	54.3	22.2	9.4	4.0	3.8
Japan	-1.0	-3.0	-1.8	-3.3	-1.3
Canada	72.1	63.3	36.3	8.9	6.1
Australia	118.9	92.6	72.3	57.1	54.9



# Let the Compounding Commence!

Second quarter 2023

David Booth, Executive Chairman and Founder, Dimensional Fund Advisors

Every year, families and friends celebrate students who are graduating from colleges and universities. Parents beam with pride at their children's accomplishments and exhale in relief now that the tuition bills have finally stopped. It's a time when adults give a lot of advice, which is why I have one simple idea I want to pass along to this year's graduating class that I hope you never forget. Parents, take note too, because with college out of the way, you can get back to focusing on retirement.

Let the compounding begin!

In case you didn't come across this idea in an econ class, let me explain compounding simply. It's the process by which the value of an investment increases over time as earnings or interest are reinvested. It's the snowball effect but with money. Here's an example.

If you're a US investor and lucky enough to have up to \$35,000 left over in your 529 college savings plan, you can roll it over into a Roth IRA starting in 2024, provided the account has been open at least 15 years.<sup>1</sup>

If you don't touch that \$35,000 for 50 years, and the market averages a 10% annualized return, which is close to its long-term historical average, then guess how much you'll have?<sup>2</sup>

A. \$1,584,074

B. \$2,551,167

C. \$4,108,680

The answer is C. Over \$4.1 million!

If you were to start this in your mid-20s and invest that same initial amount for only 45 years, you'd end up with B, or \$2.6 million. That's great, but not as great as C.

If you do it for 40 years, you'll end up with A, or \$1.6 million. Also good, but, you know, not C.

1. Laura Saunders, "Your Child Picked a College! Tee Up Your 529 Plan," Wall Street Journal, May 5, 2023.

2. In US dollars. Based on S&P 500 Index annual returns, 1926–2022. S&P data © 2023 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.

# Let the Compounding Commence!

(continued from page 15)

Another benefit of compounding is that it can help you pursue financial goals along the way, like making a down payment on a home. But don't worry if you spent your whole college fund or took out student loans. Start with a little and get in the habit of adding when you can. As you can see from this snowballing, having a lot of time can help make up for not having a lot of money.

In addition to increasing the value of your investments, compounding can also be a valuable force in life. For example, you've made an investment in time and money over the last few years that may have an enormous effect on the rest of your life. How much money are we talking about? College graduates, on average, earn 84% more than those with a high-school education, and that adds up to an extra \$1.2 million over a lifetime.<sup>3</sup> Parents, I hope you're feeling a little better about your investment too.

But it's more than just money. When you get to be like me, someone who graduated from college more than 50 years ago, you see that you are the result of the compounding of your life's decisions, both good and bad. It's hard to quantify exactly, but it's sure there. For example, in graduate school, I decided I didn't want to be a professor. That one decision continues to have a profound impact on the rest of my life. Instead, I started a company with the people I met in graduate school. Four decades later, I'm still working with some of them. I even got to go watch my former professor and current colleague Eugene Fama receive a Nobel Prize in Economic Sciences. That was not on my bingo card when I graduated from college. Life is full of surprises, and many of them can come from how your decisions compound over decades.

So, start rolling your snowball, both in life and in investing. Let the compounding commence!

3. "How Does a College Degree Improve Graduates' Employment and Earnings Potential?", Association of Public and Land-Grant Universities.

**Investments involve risks. The investment return and principal value of an investment may fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original value. Past performance is not a guarantee of future results. There is no guarantee strategies will be successful.**

The investment approach discussed does not assure a positive return or a positive investment experience. There are numerous ways of approaching investing, only one of which is presented here, which may not be appropriate for every individual. 529 Plans are tax-advantaged savings plans available in the United States that are designed to help pay for education. Eugene Fama is a member of the Board of Directors for and provides consulting services to Dimensional Fund Advisors LP. The information in this material is intended for the recipient's background information and use only. It is provided in good faith and without any warranty or representation as to accuracy or completeness. Information and opinions presented in this material have been obtained or derived from sources believed by Dimensional to be reliable, and Dimensional has reasonable grounds to believe that all factual information herein is true as at the date of this material. It does not constitute investment advice, a recommendation, or an offer of any services or products for sale and is not intended to provide a sufficient basis on which to make an investment decision. Before acting on any information in this document, you should consider whether it is appropriate for your particular circumstances and, if appropriate, seek professional advice. It is the responsibility of any persons wishing to make a purchase to inform themselves of and observe all applicable laws and regulations. Unauthorized reproduction or transmission of this material is strictly prohibited. Dimensional accepts no responsibility for loss arising from the use of the information contained herein. This material is not directed at any person in any jurisdiction where the availability of this material is prohibited or would subject Dimensional or its products or services to any registration, licensing, or other such legal requirements within the jurisdiction. "Dimensional" refers to the Dimensional separate but affiliated entities generally, rather than to one particular entity. These entities are Dimensional Fund Advisors LP, Dimensional Fund Advisors Ltd., Dimensional Ireland Limited, DFA Australia Limited, Dimensional Fund Advisors Canada ULC, Dimensional Fund Advisors Pte. Ltd., Dimensional Japan Ltd. and Dimensional Hong Kong Limited. Dimensional Hong Kong Limited is licensed by the Securities and Futures Commission to conduct Type 1 (dealing in securities) regulated activities only and does not provide asset management services.

Dimensional Fund Advisors LP is an investment advisor registered with the Securities and Exchange Commission.

Investment products: • Not FDIC Insured • Not Bank Guaranteed • May Lose Value • Dimensional Fund Advisors does not have any bank affiliates.