Miller Howard
INVESTMENTS

Does Dividend Investing Work with Tech Stocks?

QUARTERLY REPORT 2Q 2023

Tech stocks are on the run again this year, with investors drawn both to the promise of artificial intelligence (AI) and the safe haven appeal of large tech companies with cash-heavy balance sheets.

Nvidia Corporation (NVDA, not held) was the big winner, up an astounding 190% from the beginning of the year. It would be understandable if income-focused investors feel they are on the sidelines, missing all of the excitement.

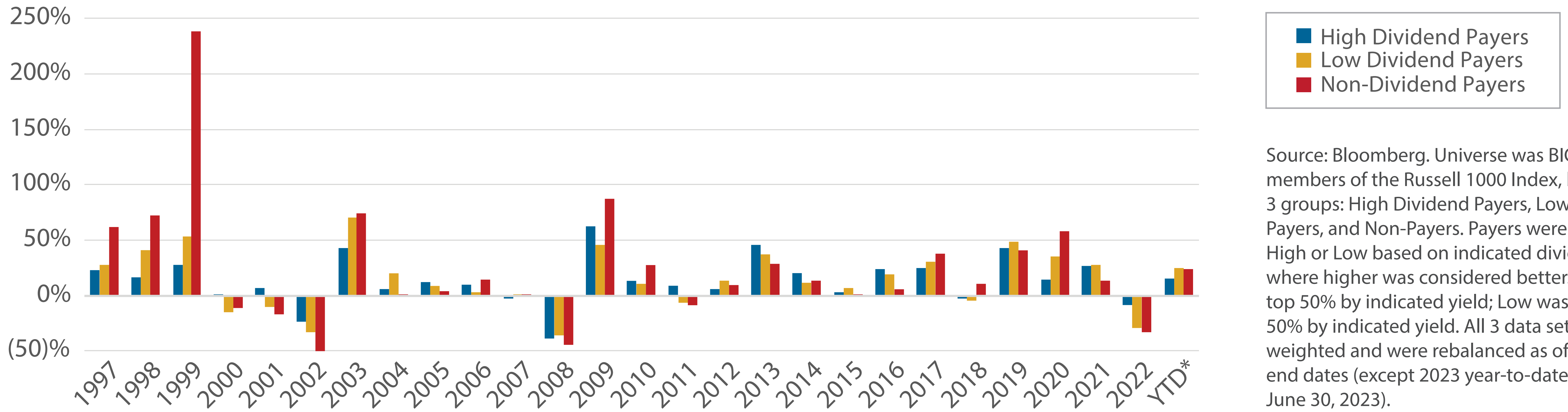
But how have high-dividend-paying tech stocks fared over the long term? High-yielding stocks have outperformed the broad market over the long term, as we have shown in past quarterlies.
For technology stocks, it's a tighter race.

To answer the question, we separated tech stocks into three groups: non-dividend payers, low-dividend payers (bottom 50% of yields), and high-dividend payers (top 50% of yields).

Looking at the 25-year period of 1997-2022, non-paying tech stocks outperformed dividend-paying tech stocks. This conclusion is, however, entirely driven by the internet bubble of the late 1990s. If we restrict our period to 2000-2022, high-dividend paying tech stocks outperformed both low-dividend paying tech stocks and non-payers.

High, Low, and Non-Dividend Paying Tech Stock

Total Return by Calendar Year



Source: Bloomberg. Universe was BICS Technology members of the Russell 1000 Index, broken into 3 groups: High Dividend Payers, Low Dividend Payers, and Non-Payers. Payers were broken into High or Low based on indicated dividend yield where higher was considered better. High was the top 50% by indicated yield; Low was the bottom 50% by indicated yield. All 3 data sets are equal-weighted and were rebalanced as of calendar year end dates (except 2023 year-to-date, which is as of June 30, 2023).

Historical Results Dominated by Internet Bubble

Average Returns & Volatility for Tech Stocks

	High Payers	Low Payers	Non-Payers
1997-2022 Performance	12%	11%	15%
1997-2022 Standard Deviation	21%	27%	55%
2000-2022 Performance	11%	8%	7%
2000-2022 Standard Deviation	22%	26%	33%

Source: Bloomberg. Universe was BICS Technology members of the Russell 1000 Index, broken into 3 groups: High Dividend Payers, Low Dividend Payers, and Non-Payers. Payers were broken into High or Low based on indicated dividend yield where higher was considered better. High was the top 50% by indicated yield; Low was the bottom 50% by indicated yield. All 3 data sets are equal-weighted and were rebalanced as of calendar year end dates.

What should we conclude? It depends on how you view the internet bubble. In our view, it was a period in which many stocks became completely unmoored from valuation.

Bankruptcy awaited many companies at the end of the decade. But the problem wasn't just with unprofitable, money-losing dot coms. Many well-established large cap tech companies became so overvalued that, when the crash came, it took years to recover. For example, a buyer of Microsoft (MSFT, not held) shares at its peak in 1999 would not get back to break-even until 2014. A buyer of **Cisco (CSCO)** shares at its early 2000 peak never got back into the black. Both Microsoft and Cisco are thought of as good companies—the problem was with the market, not the companies.

During the internet bubble, the market lost its ability to put a reasonable value on businesses.

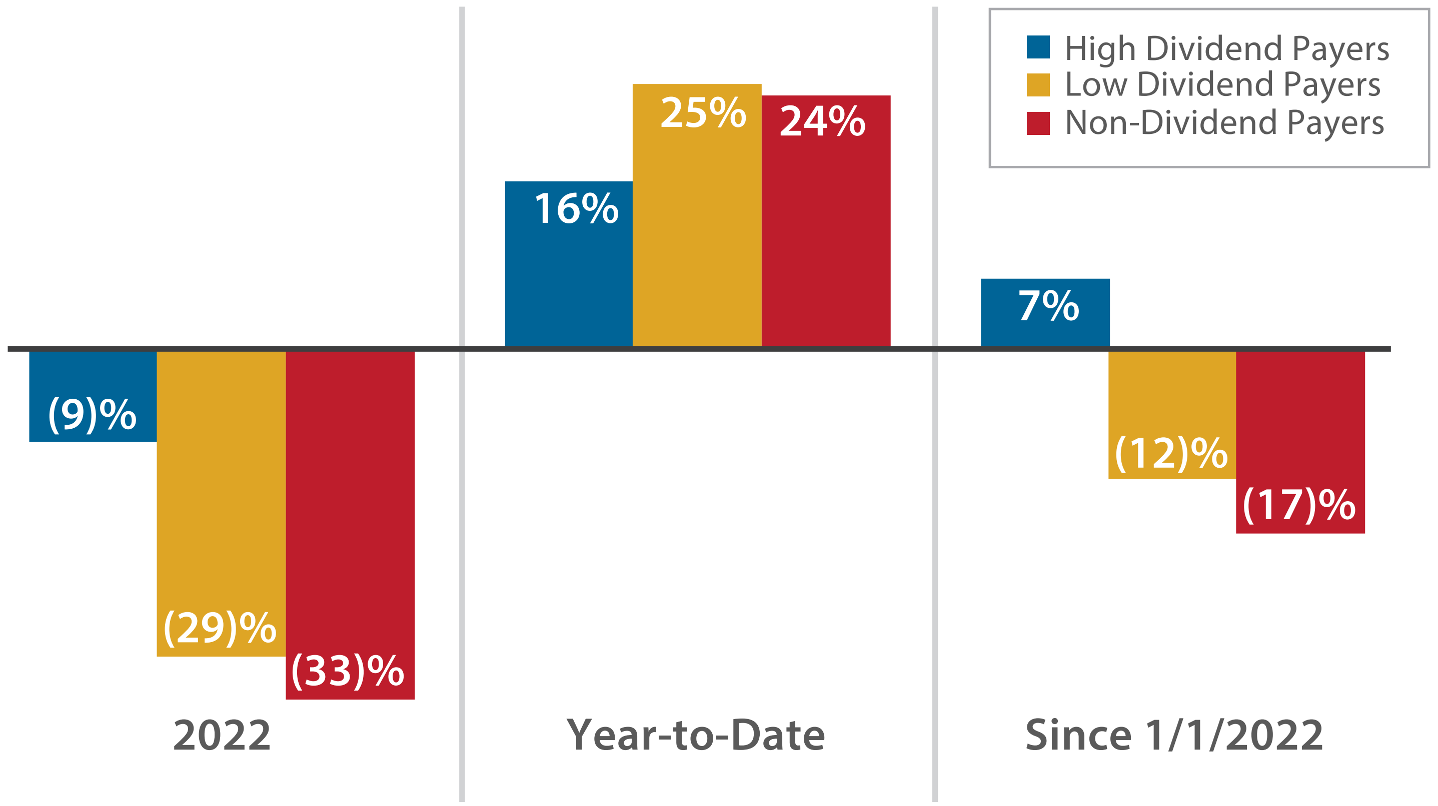
If we set the internet bubble aside, diversified, high-paying dividend stocks have the best historic returns.

At Miller/Howard, we have long argued that a regular dividend represents a signal from management that they are confident in the long-term future of their business. It is not a commitment made lightly because the market punishes dividend cutters severely. For this reason alone, we might expect high-dividend tech stocks to outperform.

But the track record of tech stocks suggests another underlying reason why dividend stocks outperform: High-dividend paying tech stocks have the lowest volatility, non-payers have the highest volatility, and low-dividend paying tech stocks fall in between.

Volatility Can Be a Return Killer

Recent Performance of Tech Stocks



As of June 30, 2023. Source: Bloomberg. Universe was BICS Technology members of the Russell 1000 Index, broken into 3 groups: High Dividend Payers, Low Dividend Payers, and Non-Payers. Payers were broken into High or Low based on indicated dividend yield where higher was considered better. High was the top 50% by indicated yield; Low was the bottom 50% by indicated yield. All 3 data sets are equal-weighted and were rebalanced as of calendar year end dates (except 2023 year-to-date, which is as of June 30, 2023).

Volatility can be a return killer.

The math is a bit involved, but it is easiest understood by considering that when a stock drops 50% one year, it needs to go up 100% the next to break even. The first half 2023 performance for non-payers and low-dividend paying tech stocks look snappy, but returns over the past year and a half actually favor high-dividend tech payers.

The reason is volatility—both non-payers and low-dividend paying tech had significantly steeper losses in 2022, putting their investors in much deeper holes than owners of high-dividend tech payers.

Will Your Dividends Rise in a Recession?

Income investors find themselves in rough seas.

While inflation has eased this year, it remains above the Fed's target, and the Fed is signaling that higher interest rates are still likely. Traditional, early indicators of a pending recession, such as surveys of manufacturing purchasing managers and bank loan officers, continue to flash red. We have also seen several large cyclical companies guide estimates down due to weakening consumer demand.

With potential problems looming, can we still expect dividends to ratchet up, even if we end up having a recession?

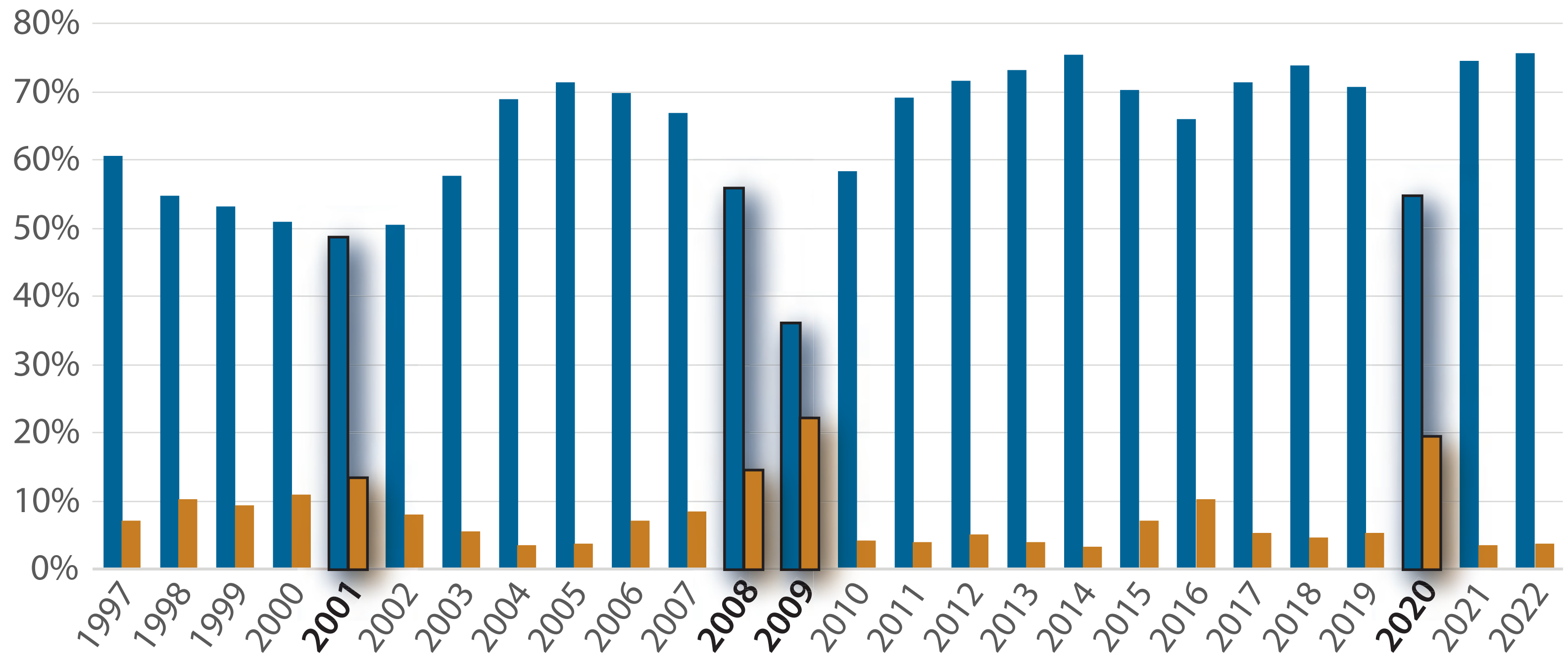
First, the good news. On average, across the calendar years 1997-2022, 63% of dividend payer actions in the Russell 1000 Index were dividend increases, while only 8% of actions were dividend decreases.

Frequent dividend increases give equities one of their key advantages over bonds—what we like to call "unfixed income."

The picture gets more challenging in recessions. During the three recessions in the past 30 years, the percentage of payers raising their dividend dropped while cuts became more frequent.

Dividend Increases Outpace Decreases, Even During Recessions

Dividend Actions, Dividend-Paying Stocks in Russell 1000 Index



As of December 31, 2022. Sources: Eikon; Bloomberg; Miller/Howard Research & Analysis. See methodology at the end of this presentation.

Overall, dividend increases still outnumbered decreases by almost 3-to-1 during recession years.

That may sound comforting, but it comes with a huge caveat—dividend increases tend to be smaller than dividend cuts. Over the past 26 years, the average dividend increase was 0.38%, based on change in yield—meaning that a stock with a dividend yield of 4.00% at the end of the trailing year would have a yield of 4.38% before any stock price changes. Dividend cuts tend to be much larger, primarily because 56% of cuts are full eliminations of the dividend. On average, dividend cuts have eliminated 3.63% of yield, meaning a 4.00% yielder would drop to 0.37%.

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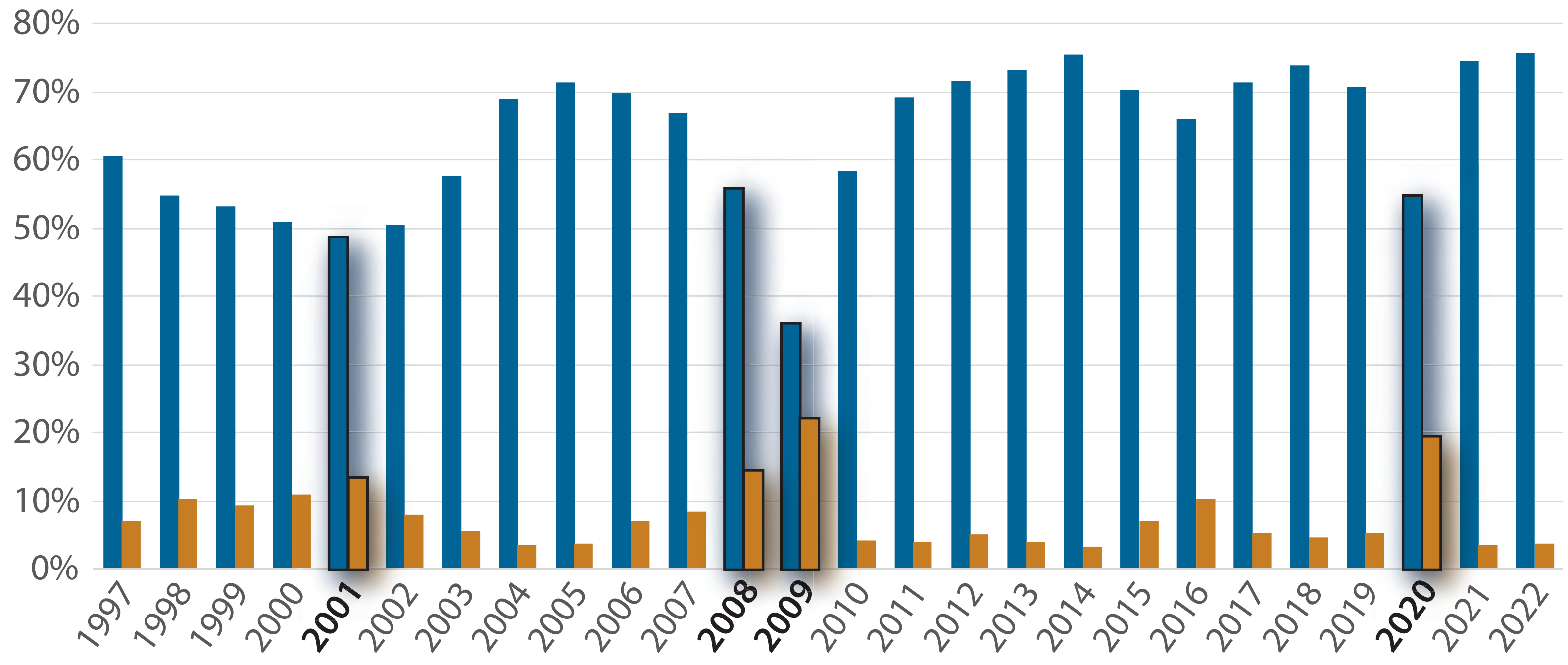

As of December 31, 2022. Sources: Eikon; Bloomberg; Miller/Howard Research & Analysis. See methodology at the end of this presentation.

Will Your Dividends Rise in a Recession?

Given the potential damage dividend cuts can have on portfolio income, **Miller/Howard seeks to invest in stocks that our research suggests are likely to increase dividends, while attempting to avoid dividend cuts.** Our view is that a great deal can be learned from past dividend-paying behavior.

Looking at dividend increasers and cutters in the Russell 1000 during the past three recessions, we can draw the following conclusions:

- **Dividend decreasers were much more likely to be financially levered.** On average, cutters had a net debt/EBITDA average of 2.4x, while increasers had an average leverage ratio of 1.2x. At Miller/Howard, we believe that it is always prudent to avoid excessive leverage, but the financial stress of a recession makes leverage even more threatening to your dividends.

Characteristics of Dividend Increasers/Decreasers

During Recent Recessionary Periods

	INCREASERS	DECREASERS
Net Debt/EBITDA*	1.2x	2.4x
Sales Growth	10.0%	4.0%
EPS Growth	30.0%	5.0%
Free Cash Flow Yield*	5.0%	2.4%

As of December 31, 2022. Sources: Eikon; Bloomberg; Miller/Howard Research & Analysis. Averages are for the recessionary years 2001, 2008, 2009, and 2020, as defined by The National Bureau of Economic Research (NBER). See methodology at the end of this presentation. *Excludes sectors financials, real estate, and utilities.

Looking at dividend increasers and cutters in the Russell 1000 during the past three recessions, we can draw the following conclusions:

- **Companies that raise dividends during recessions tended to enter the period with stronger growth tailwinds.** We found that trailing revenue growth and EPS growth were both substantially higher for raisers than for cutters. The lesson is simple—entering a recession in strong financial shape makes dividend increases more likely and helps fireproof dividends from cuts.

Characteristics of Dividend Increasers/Decreasers

During Recent Recessionary Periods

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Looking at dividend increasers and cutters in the Russell 1000 during the past three recessions, we can draw the following conclusions:

- **Dividend increasers averaged higher free cash flow (as a percentage of market capitalization) than dividend cutters.** Strong free cash flow requires a combination of good profitability, working capital control, and moderate capital spending—all of which leave cash available for dividends.

Characteristics of Dividend Increasers/Decreasers

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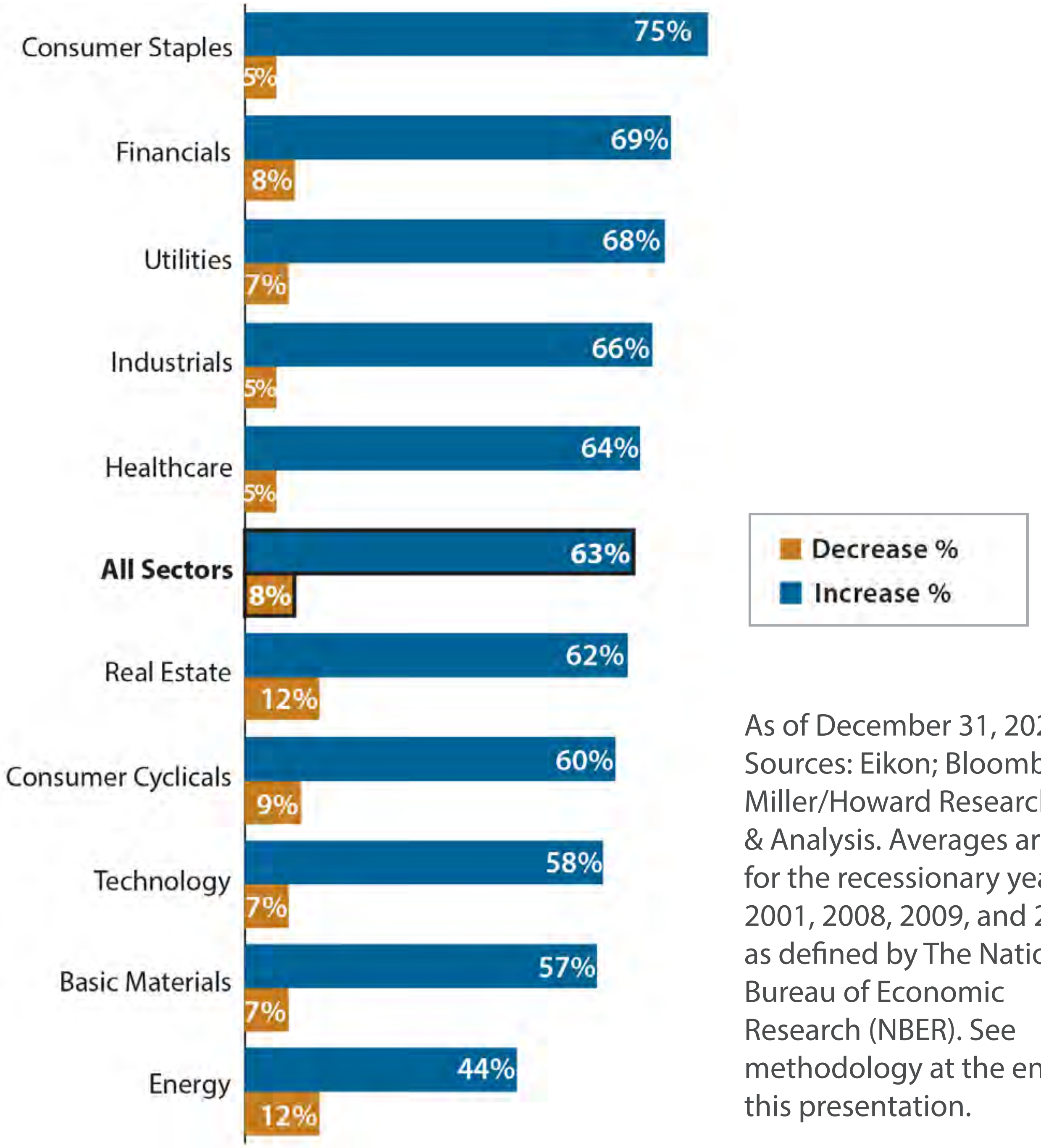
Sector Members that Increased or Decreased Their Dividends

During Recent Recessionary Periods



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In terms of sector performance, the patterns are not as crisp.

- **Consumer staples, healthcare, and utilities lived up to their defensive reputations, delivering high levels of dividend increases.**
- **Consumer cyclicals, basic materials, and energy had a higher incidence of dividend cuts, in line with long-term thinking on cyclicals.**

It's harder to spin a story about some of the other sectors. A fair criticism of our study is that we have combined three completely different recessions, so we also examined each recession separately.

2001: Popping the Internet Bubble

It was the party that would never end, until it did. The period is now called the "Internet Bubble," but at the time the phrase "New Economy" was bandied about—a pretentious term that should have been a red flag for all investors. Inflation began to rise in 1999, peaking at 3.8% in early 2000. To fight inflation, the Fed started raising interest rates, taking the Fed Funds upper bound target from 4.75% in early 1998 to 6.50% in May 2000. The stock market began to roll over in March 2000, driven by concern over valuations and the deteriorating economic outlook. The recession followed in 2001, with unemployment rising and economic growth shrinking.

2001: Popping the Internet Bubble

How did dividends hold up? Overall, there were still plenty of dividend hikes, with increases outnumbering decreases by 3.6 times. With a few exceptions, the patterns fit the classic playbook:

- **Dividend increasers tended to have lower leverage, higher trailing sales and EPS growth, and higher free cash flow yields.**
- **Dividend decreasers were the opposite—more levered, with slower trailing sales and EPS growth and inferior free cash flow.**

Characteristics of Dividend Increasers/Decreasers

During 2001

	INCREASERS	DECREASERS
Net Debt/EBITDA*	1.1x	3.1x
Sales Growth	32.1%	14.5%
EPS Growth	37.8%	22.3%
Free Cash Flow Yield*	4.2%	(0.5)%

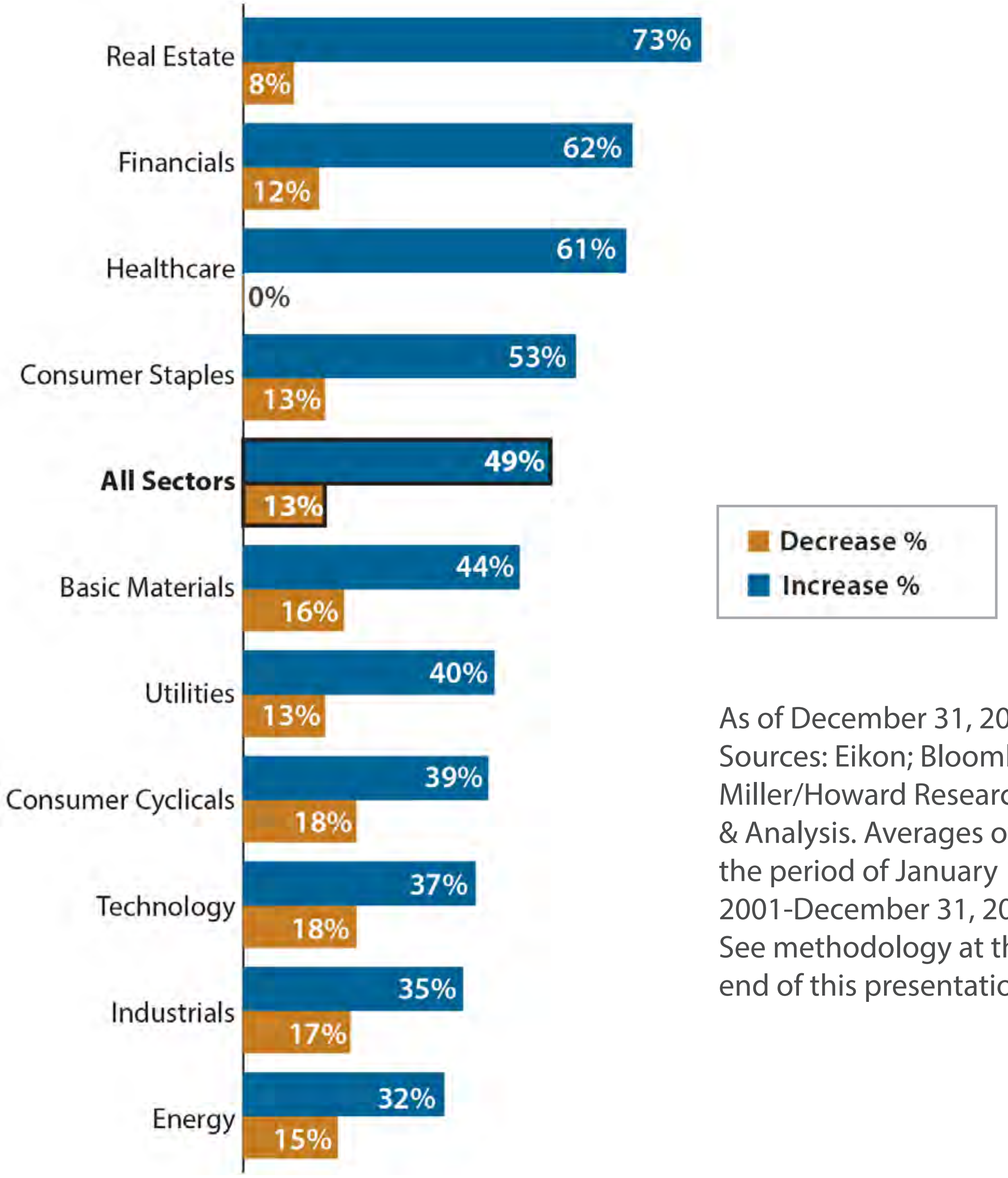
As of December 31, 2022. Sources: Eikon; Bloomberg; Miller/Howard Research & Analysis. Averages over the period of January 1, 2001-December 31, 2001. See methodology at the end of this presentation. *Excludes sectors financials, real estate, and utilities.

2001: Popping the Internet Bubble

For the most part, sector dividends aligned with historical patterns. Healthcare and consumer staples both had a high number of increasers relative to decreasers. More cyclical sectors, such as energy, industrials, consumer cyclicals, and basic materials, still had more increases than cuts, but decreases were a higher proportion of the mix. For once, real estate and financials were distant from the stress in the economy, and so dividend performance in those sectors was a positive surprise. In contrast, the collapse of the Internet Bubble directly impacted the dividend-paying ability of tech stocks. Some utilities in this period were hit by "New Economy" deregulation causing an unusually high incidence of dividend cuts in this normally defensive sector.

Sector Members that Increased or Decreased Their Dividends

During 2001



As of December 31, 2022. Sources: Eikon; Bloomberg; Miller/Howard Research & Analysis. Averages over the period of January 1, 2001-December 31, 2001. See methodology at the end of this presentation.

2008-2009: Great Financial Crisis

The key domino precipitating this crisis was loose lending to financially weak borrowers, who used the easy money to bid up home prices. Excessive leverage pervaded the financial and real estate sectors, making them vulnerable to a drop in asset prices. Once the dominos started falling, dividend increases faded, and dividend decreases ramped up.

2008-2009: Great Financial Crisis

The characteristics we find useful in predicting dividend increases and decreases in a typical year largely worked during the crisis. Dividend increasers in the core of the market (i.e., not including financials, utilities, or real estate) had lower leverage than those that cut dividends. Increasers also tended to begin the year with stronger revenue and EPS growth than decreasers.

The one factor that did not work in the Great Financial Crisis was free cash flow (FCF) yield (FCF/market capitalization), as dividend cutters actually had higher FCF yields than increasers, contrary to the long-term trend. We view this as a timing mismatch. One defining characteristic of the 2008-2009 crisis is that it played out more slowly than the 2001 and 2020 recessions. Equity prices fell sharply in 2008, helping to raise FCF yield. Most of the dividend cuts were in 2009—after equity prices had already fallen dramatically.

Characteristics of Dividend Increasers/Decreasers

During 2008-2009

	INCREASERS	DECREASERS
Net Debt/EBITDA*	0.9x	2.3x
Sales Growth	11.2%	3.8%
EPS Growth	11.9%	(69.7)%
Free Cash Flow Yield*	5.4%	8.7%

As of December 31, 2022. Sources: Eikon; Bloomberg; Miller/Howard Research & Analysis. Averages over the period of January 1, 2008-December 31, 2009. See methodology at the end of this presentation. *Excludes sectors financials, real estate, and utilities.

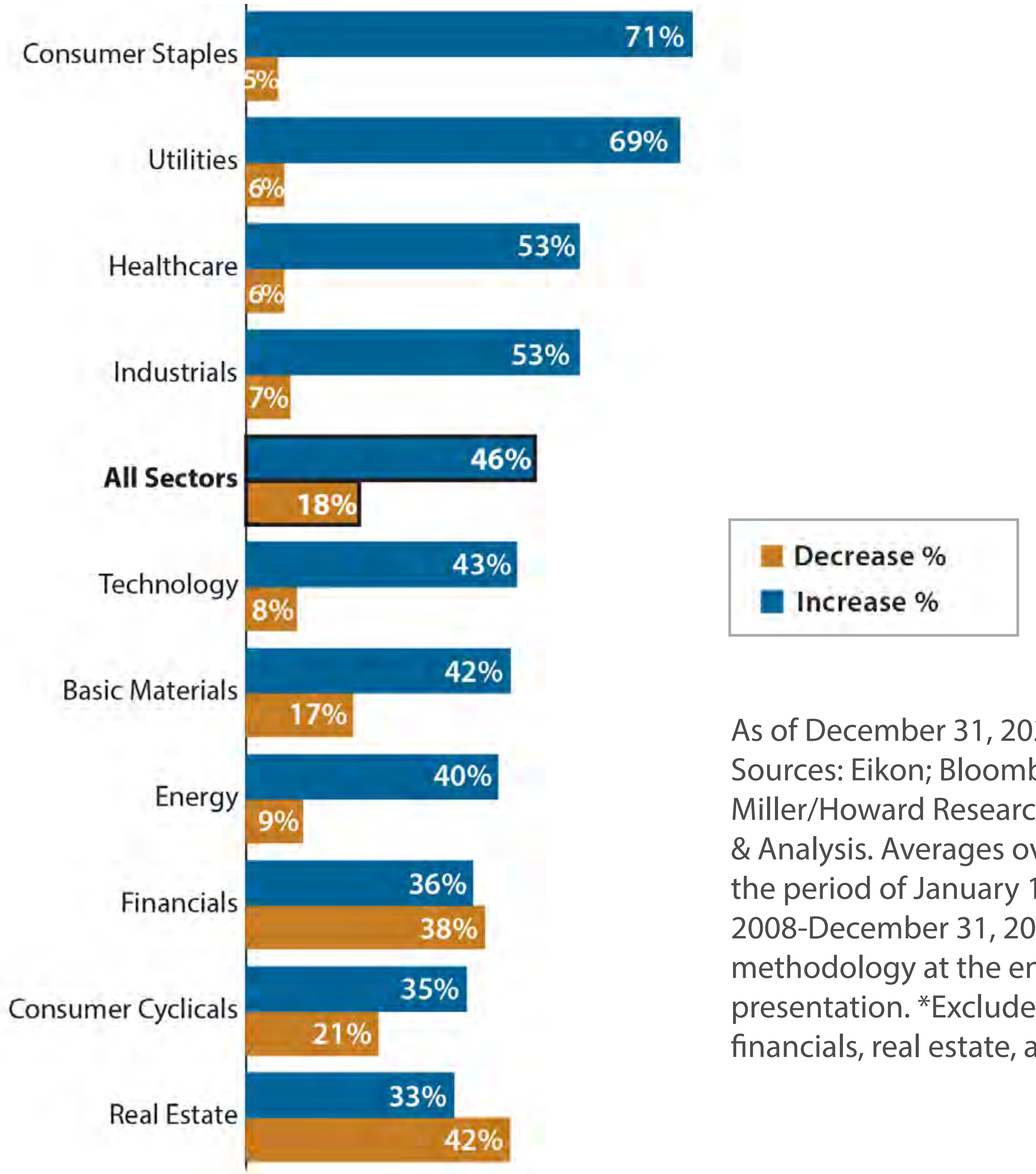
2008-2009: Great Financial Crisis

Dividend disappointments were concentrated in the three sectors at the heart of the crisis: financials, real estate, and consumer cyclicals. Dividend cuts had the following themes:

- **Mortgage lenders and home builders were at the center of the crisis, and many reduced or eliminated dividends.**
- **Dividend cuts were also common in consumer cyclical companies, particularly those that sell durable goods that are frequently bought with credit.**
- **Real estate, insurance companies, and investment banks with large investment portfolios were also compelled to cut dividends in order to rebuild capital following the drop in asset values.**
- **In contrast, the defensive sectors (consumer staples, utilities, and healthcare) proved to be fairly reliable dividend increasers.**

Characteristics of Dividend Increasers/Decreasers

During 2008-2009



As of December 31, 2022. Sources: Eikon; Bloomberg; Miller/Howard Research & Analysis. Averages over the period of January 1, 2008-December 31, 2009. See methodology at the end of this presentation. *Excludes sectors financials, real estate, and utilities.

2020: Lockdown

We were off to a good dividend year in 2020, prior to news of the pandemic, with roughly 24 dividend increases early in the year for every decrease. The World Health Organization (WHO) declared that the COVID-19 outbreak was officially a pandemic on March 11th.

The downward economic spiral was not caused directly by the pandemic but by the lockdown that occurred to varying degrees throughout the world. Many companies cut dividends to conserve cash.

2020: Lockdown

Similar to previous recessions, dividend cutters tended to have higher leverage and slower trailing EPS and sales growth.

2020 Characteristics of Dividend Increasers/Decreasers

Pre & Post WHO Announcement

Pre-WHO	INCREASERS	DECREASERS
Net Debt/EBITDA*	1.5x	2.6x
Sales Growth	4.9%	(0.6)%
EPS Growth	7.6%	(45.8)%
Free Cash Flow Yield*	3.6%	(1.5)%

Post-WHO	INCREASERS	DECREASERS
Net Debt/EBITDA*	1.5x	3.0x
Sales Growth	3.6%	1.2%
EPS Growth	7.6%	(51.7)%
Free Cash Flow Yield*	4.2%	4.9%

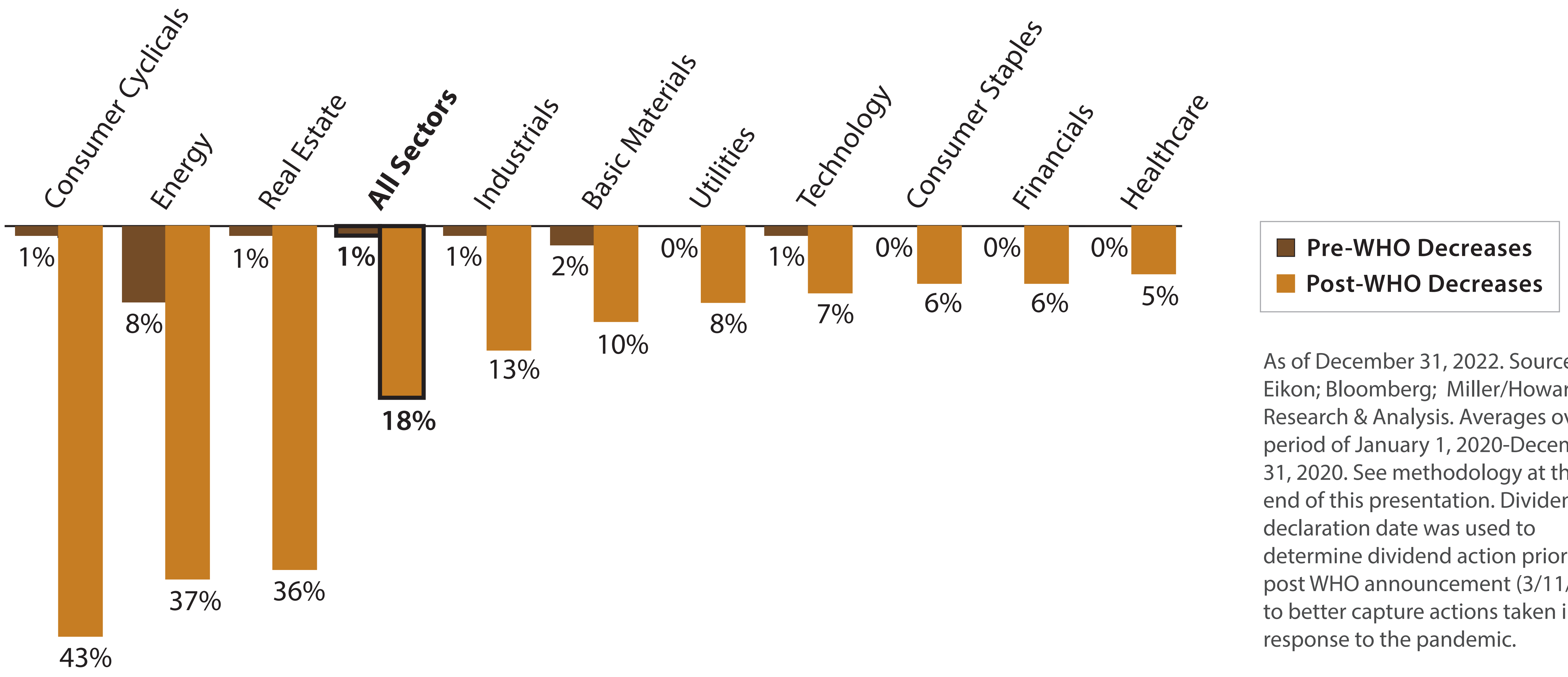
Declared Dividend Actions during 2020	INCREASERS	DECREASERS
Pre-WHO	193	8
Post-WHO	209	126

As of December 31, 2022. Sources: Eikon; Bloomberg; Miller/Howard Research & Analysis. Averages over the period of January 1, 2020-December 31, 2020. See methodology at the end of this presentation. Dividend declaration date was used to determine dividend action prior and post WHO announcement (3/11/20) to better capture actions taken in response to the pandemic. *Excludes sectors financials, real estate, and utilities.

Most of the companies that cut were directly exposed to the lockdown. Examples included energy, hotels, restaurants, airlines, casinos, retail stores, and commercial real estate companies.

2020 Sector Members that Increased or Decreased Their Dividends

Pre- & Post-WHO Announcement Dividend Cuts



As of December 31, 2022. Sources: Eikon; Bloomberg; Miller/Howard Research & Analysis. Averages over the period of January 1, 2020-December 31, 2020. See methodology at the end of this presentation. Dividend declaration date was used to determine dividend action prior and post WHO announcement (3/11/20) to better capture actions taken in response to the pandemic.

Raising the Odds of Dividend Growth During Recessions

Based on the past three recessions, we believe companies with low leverage and stronger-than-average revenue and EPS growth are less likely to cut their dividends. Said another way, we see it as a risky time to invest in wobbly companies hoping for a turnaround.

Companies in defensive sectors (consumer staples, healthcare, and utilities) have historically been more likely to continue with dividend increases during a recession. One takeaway from our investigation of the individual recessions is that each period had its unique origin—tech in 2001, banks in 2008-2009, and travel & leisure in 2020. It's still too early to know for certain if we will have a recession, and if we do, what sector will be the most stressed.

Given the high level of uncertainty, we continue to advise income investors to lean towards companies with healthy businesses and strong balance sheets—characteristics that should protect dividend growth and overall portfolio income levels.

Methodology for tables & charts: We screened for members of the Russell 1000 Index by calendar year end-date beginning in 1997. Among dividend paying members of the resulting universe, an annualized dividend was calculated for both the year and the prior year based on the fourth quarter dividend paid for year one and year minus one (fourth quarter dividend multiplied by 4). To calculate the change in yield, the calendar year end date price was used. For example: For 2021 data, we screened for members of the Russell 1000 Index as of 12/31/2020. For each dividend payer in the resulting universe, the 2021 Q4 dividend was multiplied by 4 as well as the previous period dividend (2020 Q4). The formula to calculate change in basis points was ((2021 Q4 dividend*4)-(2020Q4 dividend*4))/2020 calendar year end price. For annual payers, the annual dividend and prior annual dividend were compared. For semi-annual payers, the second dividend paid was multiplied by 2 rather than 4. Specials were excluded from all calculations. Calendar years 2012 and 2013 were modified to adjust for dividend actions taken by companies in response to changes in tax laws around dividends. Of note for slides 22-23, dividend declaration date was used to determine dividend action prior and post WHO Announcement. Declaration date was used to better capture actions taken in response to the pandemic. Recessionary years 2001, 2008, 2009, and 2020 are as defined by The National Bureau of Economic Research (NBER).

DISCLOSURE
Miller/Howard Investments Inc. is an independent, research-driven investment boutique with over three decades of experience managing portfolios for major institutions, mutual funds, and individuals in dividend-focused investment strategies. The firm is 100% employee-owned through an Employee Stock Ownership Plan (ESOP).

We continue to evolve and develop strategies that strive to provide investors with various levels of current income and dividend growth. Our objectives are to generate total returns in line with the broad equity market and provide a high and rising stream of income with the lower volatility that an investor might seek from bonds or other income alternatives. With a primary goal of reliable income and long-term returns, coupled with a belief that investors can play an important role in securing a sustainable future, our shareholder advocacy efforts include environmental, social, and governance (ESG) research and/or screening, direct engagement with companies, filing shareholder resolutions, proxy voting, coalition building, and public policy involvement.

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DEFINITIONS:
S&P 500 Index® widely regarded as the best single gauge of large-cap US equities and serves as the foundation for a wide range of investment products. The Index includes 500 leading companies and captures approximately 80% coverage of available market capitalization.
Price-Earnings Ratio (P/E)—The ratio of a company's share price to its earnings per share. The ratio is used as a valuation tool and can help determine whether a company is overvalued or undervalued.
Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA)—A non-GAAP measure used to provide an approximation of a company's profitability. This measure excludes the potential distortion that accounting and financing rules may have on a company's earnings; therefore, EBITDA is a useful tool when comparing companies that incur large amounts of depreciation expense because it excludes these noncash items, which could understate the company's true performance.
High-Dividend Yield Stocks consists of Decile 7, 8, and 9 of a universe of US dividend paying common stocks with a market capitalization equal to or greater than $1 billion.
Net Debt to EBITDA—A measure that computes the company's ability to pay off its debt by utilizing the earnings before interest, taxes, depreciation, and amortization (EBITDA).
Russell 1000 Index® measures the performance of the large-cap segment of the US equity universe. It is a subset of the Russell 3000 Index® and includes approximately 1,000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 Index® represents approximately 92% of market capitalization of the US market.
US Treasury 10-Year Yields are yield to maturity and pretax. Indexes have increased in precision as of May 20, 2008, to 4 decimal places. The rates comprise Generic US Government on-the-run government bill/note/bond indexes.

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Notification to Clients: Contact your Advisor with any material changes to your financial profile that would impact your appropriateness for investment.
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