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2023 Fortuna Advisors Buyback ROI Report

An In-Depth Analysis of Buybacks from 2018-2022



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ABOUT FORTUNA ADVISORS

Fortuna Advisors collaborates with leaders to transform decision-making throughout their business to achieve exceptional results. Our management playbook delivers measurable outcomes through:

1. **Better Insights:** See the truth about where value is created or destroyed.
2. **Better Decisions:** Drive faster, better and enduring results.
3. **Better Behaviors:** Align incentives and processes to drive execution.

We serve as a catalyst to create a culture of ownership, where everyone from the board to management and employees embraces a long-term investor perspective to unlock the organization's full value creation potential.

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Why We Measure Buyback ROI

Every year Berkshire Hathaway’s annual letter offers financial wisdom to interested investors, journalists and corporate practitioners. In recent years the letter has also provided an update on the company’s buyback program, with insight into its leaders’ philosophy on the distributions. One quote, in particular, caught the attention of the media this year:

When you are told that all repurchases are harmful to shareholders or to the country, or particularly beneficial to CEOs, you are listening to either an economic illiterate or a silver-tongued demagogue (characters that are not mutually exclusive).

While many were quick to highlight this statement defending the role of share repurchases in our economy, what they missed was the more nuanced comments that preceded it:

*The math isn’t complicated: When the share count goes down, your interest in our many businesses goes up. Every small bit helps if repurchases are made at value-accretive prices. **Just as surely, when a company overpays for repurchases, the continuing shareholders lose. At such times, gains flow only to the selling shareholders and to the friendly, but expensive, investment banker who recommended the foolish purchases.***

Buffett and Munger’s thoughtful approach to buybacks is at the core of our mission at Fortuna Advisors to help companies achieve higher total shareholder return (TSR) by developing new ways to measure and motivate success. To this end, in 2011 we developed “Buyback ROI” to compare share repurchases to other capital uses, such as capital expenditures and acquisitions.

It is a straightforward concept: when a company repurchases shares and its subsequent TSR is positive, it produces positive

Buyback ROI. In other words, the company has earned a return on its investment in its own shares by retiring them before the market cap increase, which is concentrated in fewer shares.

Following a massive recovery in 2021 as COVID-related restrictions eased, in 2022 concerns grew around rising inflation and interest rates. The resulting drop in stock market indices led to the lowest Buyback ROI we’ve seen since we started tracking the metric in 2012.

When a company achieves a Buyback ROI that exceeds their

TSR, we refer to this as “Buyback Effectiveness.” Achieving positive Buyback Effectiveness requires buying back more when the price is below the long-term share price trendline, which results in repurchasing more shares per dollar of buybacks. While our 2022 report analyzing the five years ending in 2021 showed the best Buyback Effectiveness since we began running the data, this year’s report tells a different story. Buyback Effectiveness over the five years ending in 2022 dropped to -1.1%, the lowest it’s been since 2018—suggesting many managements left value on the table for their shareholders.

Improving Buyback ROI and Buyback Effectiveness should be the goal of every CEO, CFO, and Treasurer who oversees a repurchase program. Management teams that achieve strong results in these metrics can be said to have demonstrated good stewardship of investor capital, and are not just providing an artificial boost to EPS performance by reducing the share count.

For over a decade, Fortuna Advisors has advocated for a proactive, value-based approach to share buybacks, starting with the introduction of “Buyback ROI” in our 2011 study. Since then, we have published our Buyback ROI ranking for the S&P 500’s largest share repurchasers. The purpose of our Buyback ROI Reports has been twofold: (1) to show the staggering amounts of capital that have been deployed in repurchases; and (2) to demonstrate how value is created—or in far too many cases destroyed—through share repurchase programs.

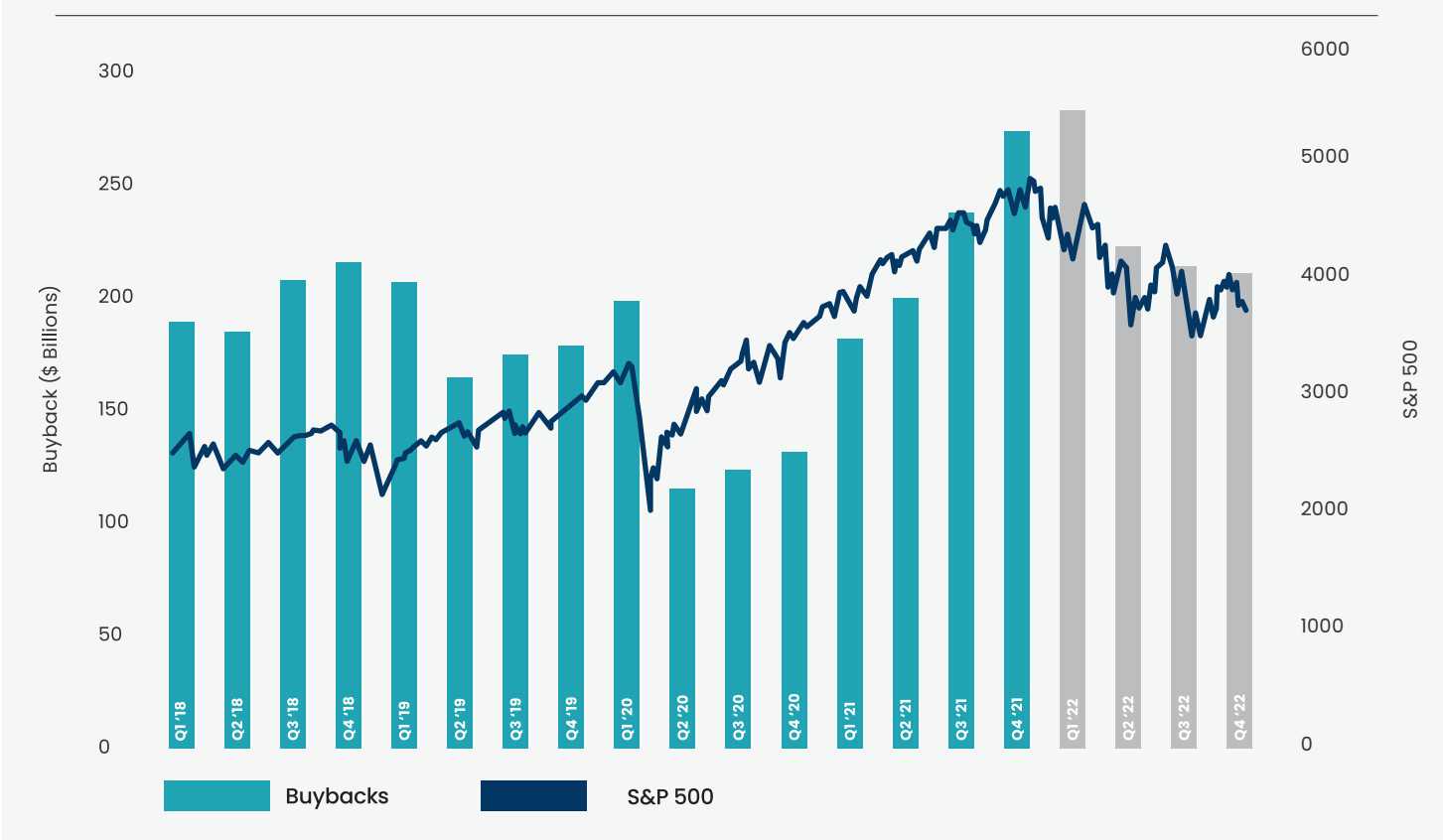
Repurchases in 2022: Buybacks Set New Quarterly & Annual Records

After back-to-back record-breaking quarterly buyback volumes in Q3 and Q4 of 2021, the party continued with a new quarterly record set in Q1 of 2022 of just under \$280 billion of stock bought back by the S&P 500's top 363 repurchasers. While a falling market led to a stark drop-off in Q2 2022, with volumes continuing to decline in Q3 and Q4, total buyback volume in 2022 set a new annual record of over \$919 billion for these 363 companies.

It's notable that companies tapered their buybacks significantly as the market continued to drop throughout year, demonstrating how most companies tend to buy back more shares around market highs (when their profits and cash flows also tend to be higher). We can observe this same pattern in 2020 as the market fell precipitously after Q1 and buybacks dropped off substantially. This, of course, runs counter to the common wisdom of "buying low, and selling high."

Buybacks ignited vigorous debate in the media in 2022, as a new 1% excise tax was signed into law in August as part of The Inflation Reduction Act of 2022—though the tax only went into effect in 2023. Later in this report, we analyze the implications of such tax, and of a newly proposed 4% tax.

FIGURE 1 | Quarterly Buybacks 2018–2022
2022 Buybacks Dropped Off amid Market Decline

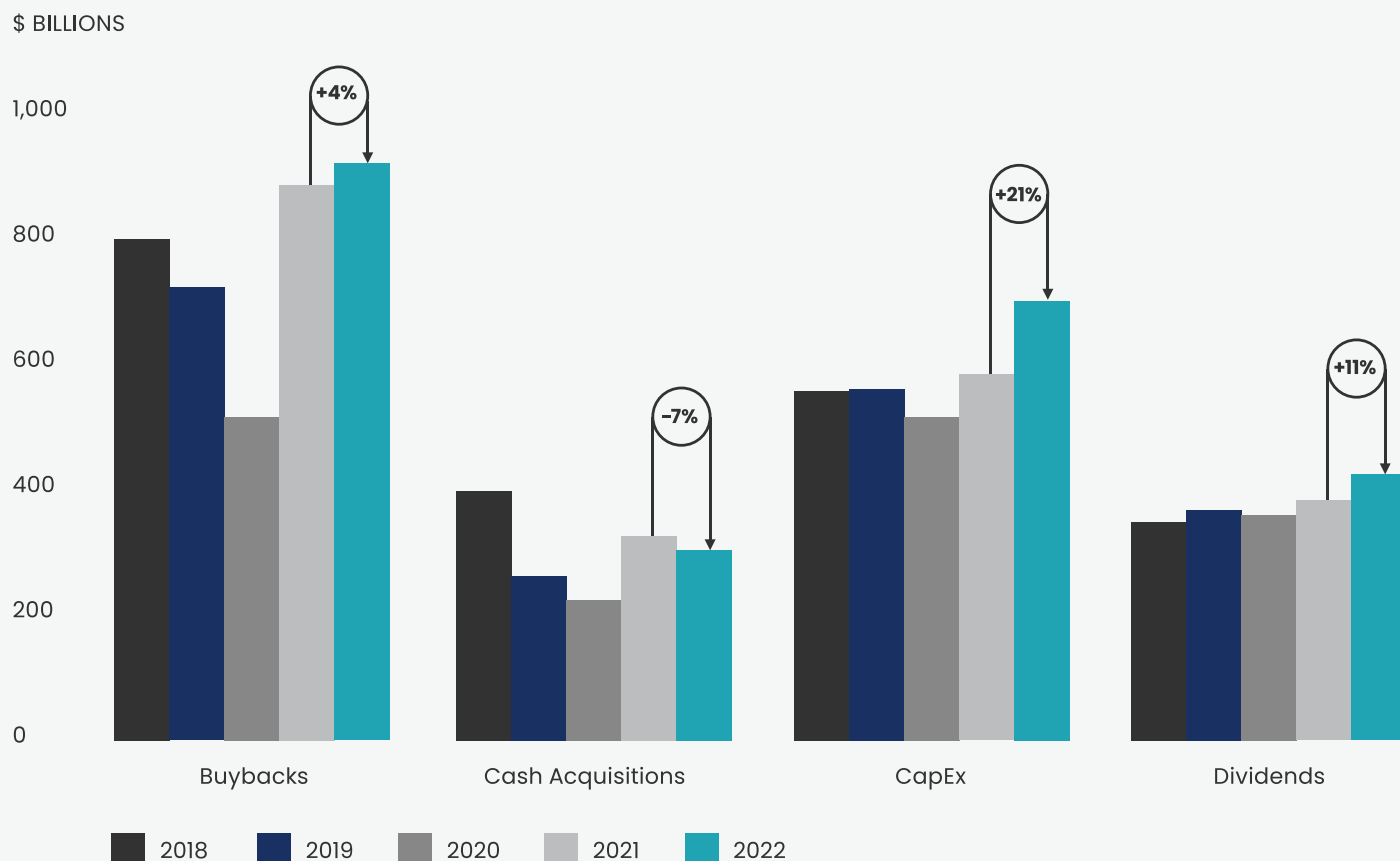


Trends in Capital Deployment

As shown in Figure 2, capital expenditures were on the upswing in 2022. This was likely fueled by rising investment in nearshoring and new supply chains to address the snags that cropped up in 2020 and 2021. Cash acquisitions also dropped slightly, as share prices and equity valuations plummeted, likely making managements less inclined to put businesses up for sale.

Interestingly, aggregate dividends reached a new six-year high, showing more than twice the growth of buybacks. The five-year trend on dividends reinforces the notion that dividends are “sticky.” Once a company issues a dividend, it is very difficult to stop. Note that dividends were the only capital deployment option in Figure 2 that did not see a meaningful decline in 2020, when the COVID-19 pandemic began.

FIGURE 2 | Capital Deployment: 2018-2022
Capex Makes a Comeback in 2022



Fortuna Buyback Metrics Explained

Fortuna Advisors developed Buyback ROI and Buyback Effectiveness to enable comparison of a company’s share repurchase activity to its other uses of capital. In general terms, when the value of an acquired asset increases, we say it has earned a positive return on investment. Our thinking behind buybacks is similar—when the implied value of a company’s repurchased shares increases over a period, it has earned a positive Buyback ROI.

Buyback ROI is calculated as an annualized internal rate of return (IRR) that accounts for: (1) the cash outflows associated with share repurchases; (2) the estimated cash “inflows” of dividends “avoided”; and (3) an estimated final “inflow” related to the final value of the accumulated shares repurchased.

If a company’s share price starts the year at \$100, pays a dividend of \$1 at the end of each quarter and has a year-end share price of \$110, it would have an initial outflow of \$101 (factoring a 1% excise tax), \$4 of quarterly “inflows,” and a final “inflow” of \$110 at the end of the year—resulting in a Buyback ROI of 13.1%, as shown in Figure 3.

While it is easier to achieve a positive Buyback ROI when a company’s TSR is generally increasing, it can also be achieved through effective timing of repurchases.

Buyback Effectiveness measures the value attributable to optimizing the timing of repurchases. It is calculated as the compound difference between Buyback ROI and

FIGURE 3
Calculation of Buyback ROI

	Time 0	Q1	Q2	Q3	Q4
Buyback	\$100.00				
Tax	\$1.00				
Dividends		\$1.00	\$1.00	\$1.00	\$1.00
Ending Price					\$110.00
Cash Flows	-\$101.00	\$1.00	\$1.00	\$1.00	\$111.00
Annualized IRR = Buyback ROI					13.1%

the company’s TSR, as shown in figure 4. When Buyback ROI exceeds TSR, a company has executed buybacks when its stock was priced below the long-term trend, on average. When Buyback ROI trails TSR, a company has executed buybacks above this long-term price trend.

If the company had 16% TSR while generating the 13.1% Buyback ROI described above, it would mean it had negative Buyback Effectiveness due to poor timing. Alternatively, if it had 12% TSR with

13.1% Buyback ROI, it would have benefitted from good timing on its buybacks and positive Buyback Effectiveness.

To improve Buyback Effectiveness, companies should push towards having a real-time perspective on their intrinsic value per share and how that compares to market price per share—they are rarely the same. With the right toolkit and metrics, company Treasurers can build confidence on the best times to execute buybacks.

FIGURE 4
Calculation of Buyback Effectiveness

$$\text{Buyback Effectiveness} = \frac{(1 + \text{Buyback ROI})}{(1 + \text{TSR})} - 1$$

The Important Role of Buybacks

Companies generally repurchase shares for three reasons. Most repurchases are designed to efficiently return capital to shareholders willing to sell their ownership in a company in part or in whole and redeploy the capital elsewhere. Such repurchases have the effect of reducing the number of shares outstanding, which concentrates future value creation (or destruction) for remaining shareholders.

Alternatively, companies also repurchase shares in the public market to offset newly issued shares awarded to employees as equity-based compensation. This form of repurchase is intended to reduce the net new shares issued and avoid dilution to existing shareholders that wish to retain their existing level of ownership in a company. In both cases, such repurchases are recorded in companies' cash flow statements as a purchase of common stock under financing activities.

A third form of repurchase occurs when an employee's equity-based compensation vests and is therefore treated as taxable income. To meet the company's obligation to withhold tax on taxable income, companies may net share settle the equity-based compensation awarded to the

employee—in effect, they are “repurchasing” shares that had been awarded to the employee, which results in reducing the company's diluted number of shares outstanding. This payment of the tax obligations related to equity-based compensation is also recorded as a financing activity on the cashflow statement. For the purposes of our study, we do not distinguish between these three forms of repurchase activity.

Regardless of form, we continue to believe repurchases have a rightful place in the capital markets. The role of these markets is to move capital from where there is excess supply to where there is an unmet need for it. Investors and companies are thought of as the two sides of that market, but the investors themselves must first gather the capital that they will then allocate to companies.

This capital can come from places like insurance companies, pension funds, endowments, or family offices that have capital today, but no use for it until some future event. Capital can also come from investors' prior investments. When an investment has succeeded and produced a return in excess of what can be profitably



Once companies have invested in growth and financial flexibility, buybacks can play an important economic role in releasing capital to more productive uses.

redeployed within a company, buybacks serve as an efficient method to distribute such excess return through the capital markets to other companies with better growth prospects. Further, we believe restrictions on buybacks would, at best, result in higher dividends, and at worst, slow innovation and breed corporate complacency, as companies have less pressure to be efficient with their capital.

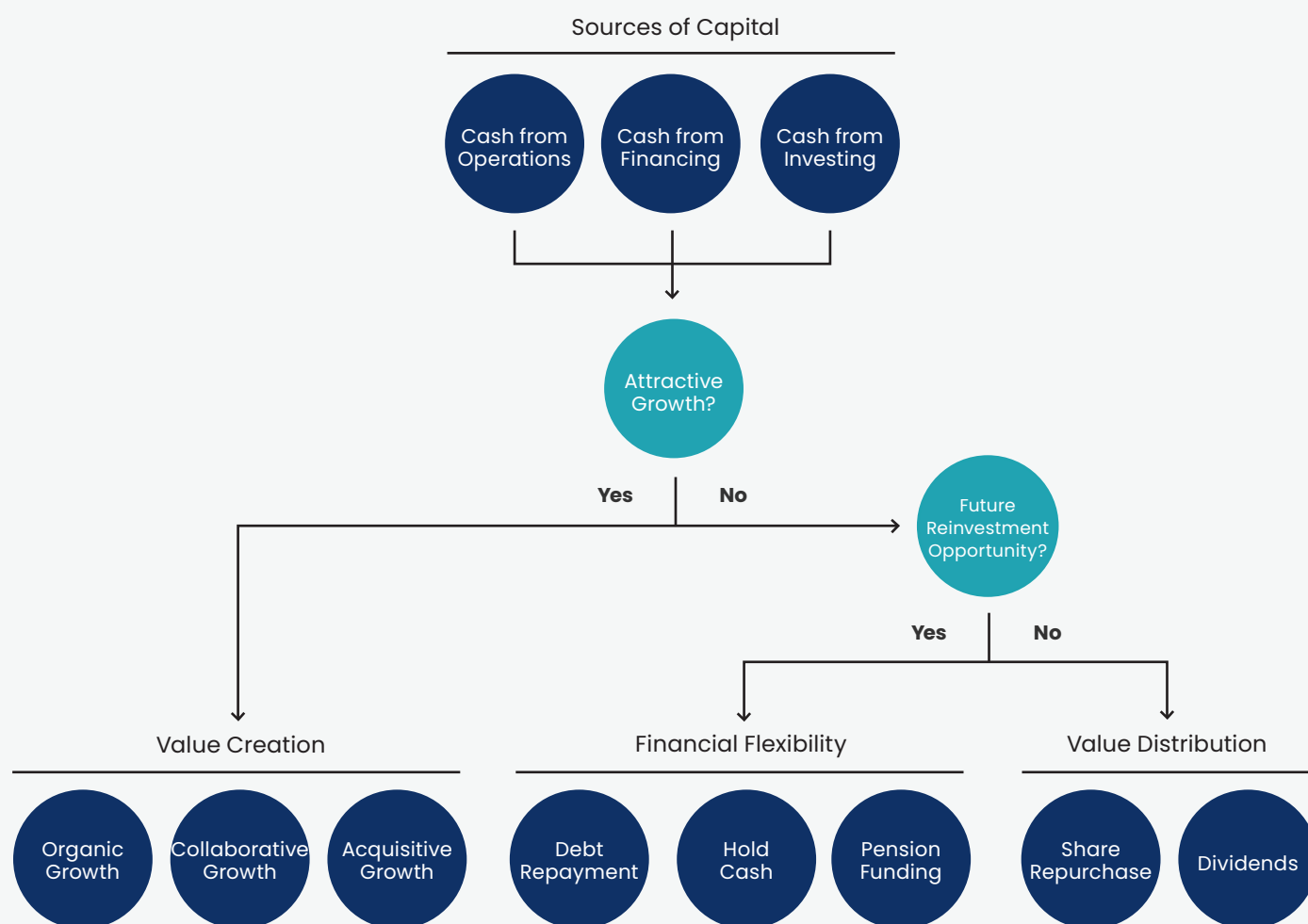
The importance of developing a thoughtful buyback policy took the forefront in 2020. Many companies that bought back billions in stock from 2016 to 2019 had to raise capital to maintain solvency. Opponents of buybacks pointed out that had these companies been more temperate with buybacks in prior years, not only could they have had the financial flexibility to weather the pandemic better in 2020, they would have also been poised to pursue

more opportunistic investment. While some headlines may cast a shadow over the practice, we believe this should not diminish the important role buybacks play in recycling, and better allocating, capital across markets.

Companies have three primary options when considering how to deploy capital: value creation, financial flexibility, or value distribution. Companies should first consider value-creating growth opportunities that exceed their cost of

capital. These can include organic growth, acquisition, or collaborative growth. If no attractive opportunities for growth exist, companies should consider the optimal level of financial flexibility—let 2020 be a reminder of that. Once value creation and financial flexibility are fully evaluated and funded, the last option should be distribution of capital back to shareholders either through dividends or buybacks.

FIGURE 6
Hierarchy of Capital Allocation Choices



The Philosophical Debate Over Buybacks

The debate about whether or not a company should use its capital to buy back stock can be intense. Broad statements in favor or against buybacks lack nuance and the simple recognition that both sides have a similar goal in mind—that the earnings and cashflow of a business be put to good use. The difference comes in how the two sides believe that goal is most likely to be achieved.

Many in the anti-buyback camp believe the optimal allocation of capital, for the good of the company and all its stakeholders, is achieved by companies committing to strengthening their own balance sheets, increasing their employees' wages, and continually striving for growth. These are all choices a company has for allocating its capital internally, so an anti-buyback philosophy is implicitly an argument that company managers are good allocators of capital—that their reinvestments within the company will lead to incremental value creation for the firm's employees, stakeholders, and shareholders.

If investors were confident companies could do this effectively, the debate would favor leaving capital at the original company to compound in value through effective reinvestment. For example, a long-term Amazon investor has done much better from the company reinvesting in its business than they would have if Amazon had repurchased that stock along the way, forcing the investor to find a new use for the capital.

But buyback proponents believe examples like Amazon are all too rare, and that professional investors tend to be better capital allocators than company managers—thanks both to their dedicated skill sets and to the sharper edge of their results-oriented environment. Professional investors can also more efficiently re-allocate capital within a sector, or from one sector to another, to support overall economic growth through secular shifts in the way value is created.

The question, then, is not really whether buybacks are “good” or “bad,” but whether corporate managers are good or bad at allocating the



The real question is not whether buybacks are “good” or “bad,” but whether corporate managers are good or bad at allocating capital.

capital entrusted to them by their investors, and whether and when they should return that capital. The answer to this question varies by industry and by management team. Indeed, a large part of Fortuna's practice is helping our corporate clients capture the upside of becoming better investors of their own capital.

For those with a strong view either way on this debate, we would like to understand your perspectives. Please feel free to email us at info@fortuna-advisors.com to share your views or suggest a call for a discussion.

Buyback ROI Hits an All-Time Low

There are two determinants of Buyback ROI. One is share price appreciation and the other is timing, which we capture in Buyback Effectiveness. Figure 6 lists the top ten Buyback ROI companies over the last five years. This year, Quanta Services took the top spot, with an excellent Buyback ROI of 43.2% due to strong TSR along

with a meaningful contribution from good timing, reflected in their Buyback Effectiveness. This year's top ten is notable in that it includes many companies—Steel Dynamics, McKesson, Archer-Daniels-Midland, and ConocoPhillips—whose ROI far exceeded their TSR due to strong Buyback Effectiveness. Such companies took advantage of

volatility in their share prices to produce this strong Buyback ROI for their remaining shareholders. This result was likely a function of the market decline, which led to timely repurchasers filtering to the top of the list (and haphazard repurchasers no longer being rewarded by a continually rising tide).

FIGURE 6 | Buyback ROI: 2018-2021

Top 10 Buyback ROI Companies

Rank	Company	Buybacks (\$ millions)	Buyback ROI	TSR	Buyback Effectiveness
1	Quanta Services, Inc.	1,109	43.2%	30.9%	9.4%
2	Eli Lilly and Company	13,460	38.0%	35.7%	1.8%
3	Steel Dynamics, Inc.	3,840	37.2%	23.1%	11.4%
4	Molina Healthcare, Inc.	1,296	36.7%	36.3%	0.3%
5	McKesson Corporation	12,109	34.1%	21.5%	10.4%
6	AutoZone, Inc.	12,814	33.0%	30.5%	1.9%
7	Archer-Daniels-Midland Company	1,810	31.9%	20.9%	9.0%
8	ConocoPhillips	20,291	30.8%	22.5%	6.8%
9	CF Industries Holdings, Inc.	2,875	30.6%	25.2%	4.3%
10	KLA Corporation	16,935	30.4%	11.0%	17.5%
Median of Top 10		7,975	33.5%	24.1%	7.9%
Median of All Ranked Companies		3,886	6.4%	9.0%	-1.1%

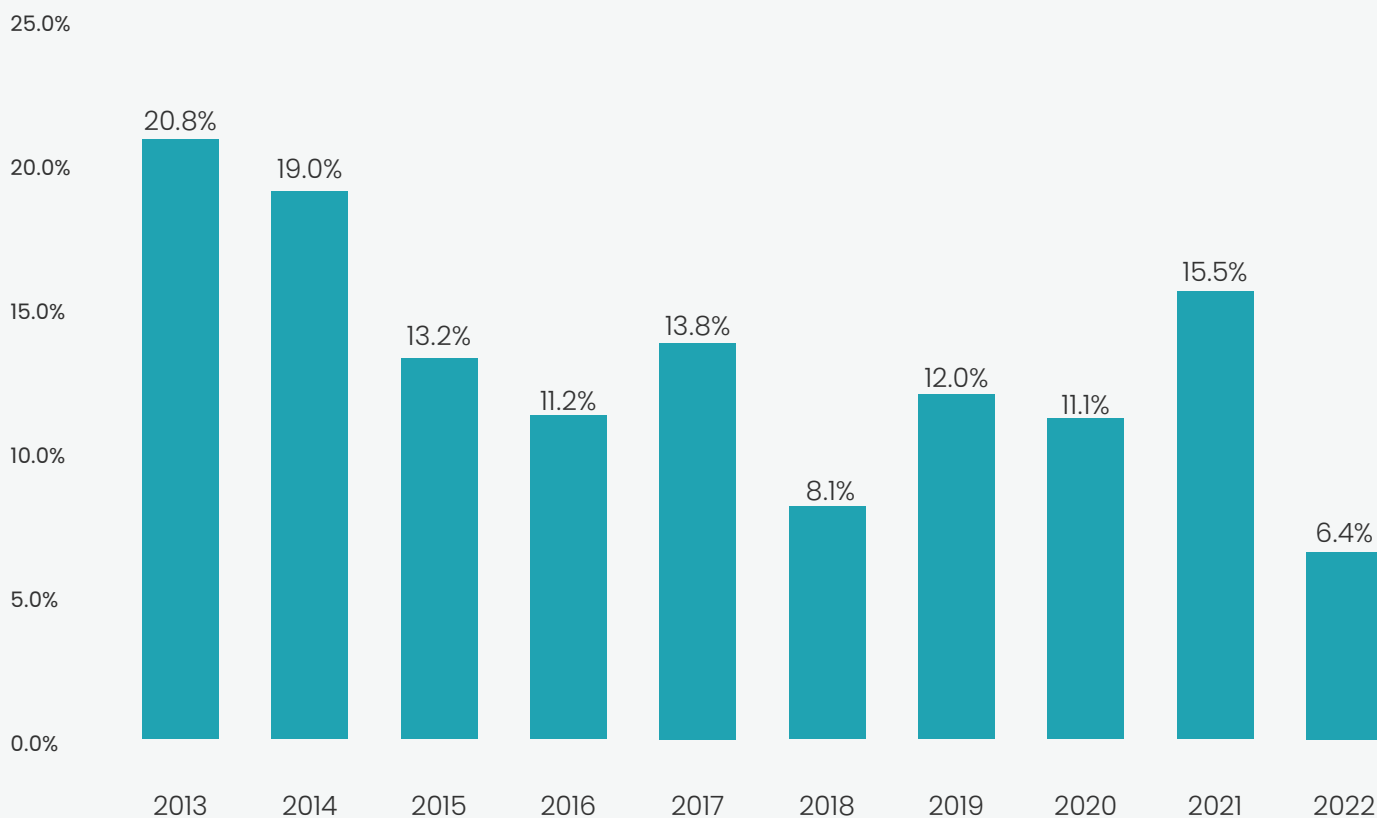
NOTE: TSR measured as the starting and ending average quarterly share price.

Figure 7 shows the trailing five-year median Buyback ROI for the companies in our study over the last ten years. While only 11% of companies achieved a negative Buyback ROI in last year's report, this figure ballooned to 27% in this year's report. This staggering change of fortunes highlights how many buyback programs rely on an upward market to produce value.



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FIGURE 7 | Trailing Five-Year Median Buyback Performance
Buyback ROI is at an All-Time Low



Buyback Effectiveness at a Four-Year Low

Historically, it seems most companies overlook the importance of timing and relative valuation when determining their buyback plans. Many make buyback decisions based on excess cash availability rather than determining whether it's a good time for buybacks. As a result, in nearly every year since our creation of Buyback ROI, median Buyback Effectiveness has been negative. And while in 2019 and 2021 this trend was bucked, unfortunately this year we saw a reversion to negative Buyback Effectiveness—with lows not seen since 2018, which saw -1.3% Buyback Effectiveness.

Figure 9 lists the ten companies with the highest Buyback Effectiveness over the last five years. Notably, Energy and Industrials are well represented in the group.

FIGURE 8 | Buyback Effectiveness: 2018–2022

Buyback Effectiveness Hits Four-Year Low

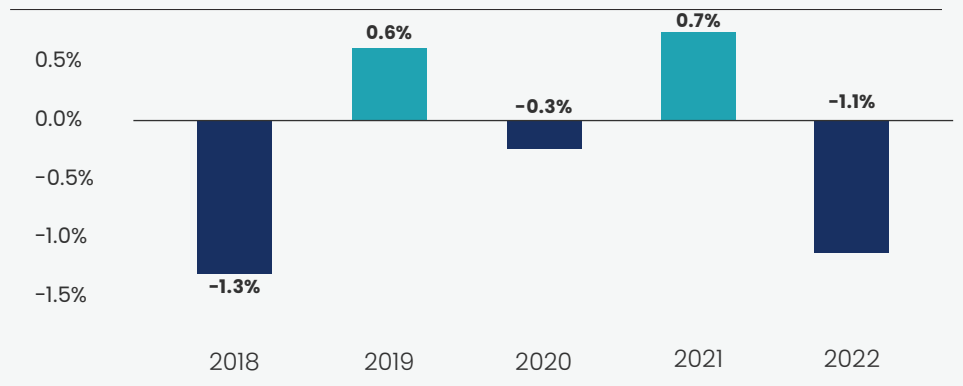


FIGURE 9 | Buyback Effectiveness: 2018–2022

Top 10 Buyback Effectiveness Companies

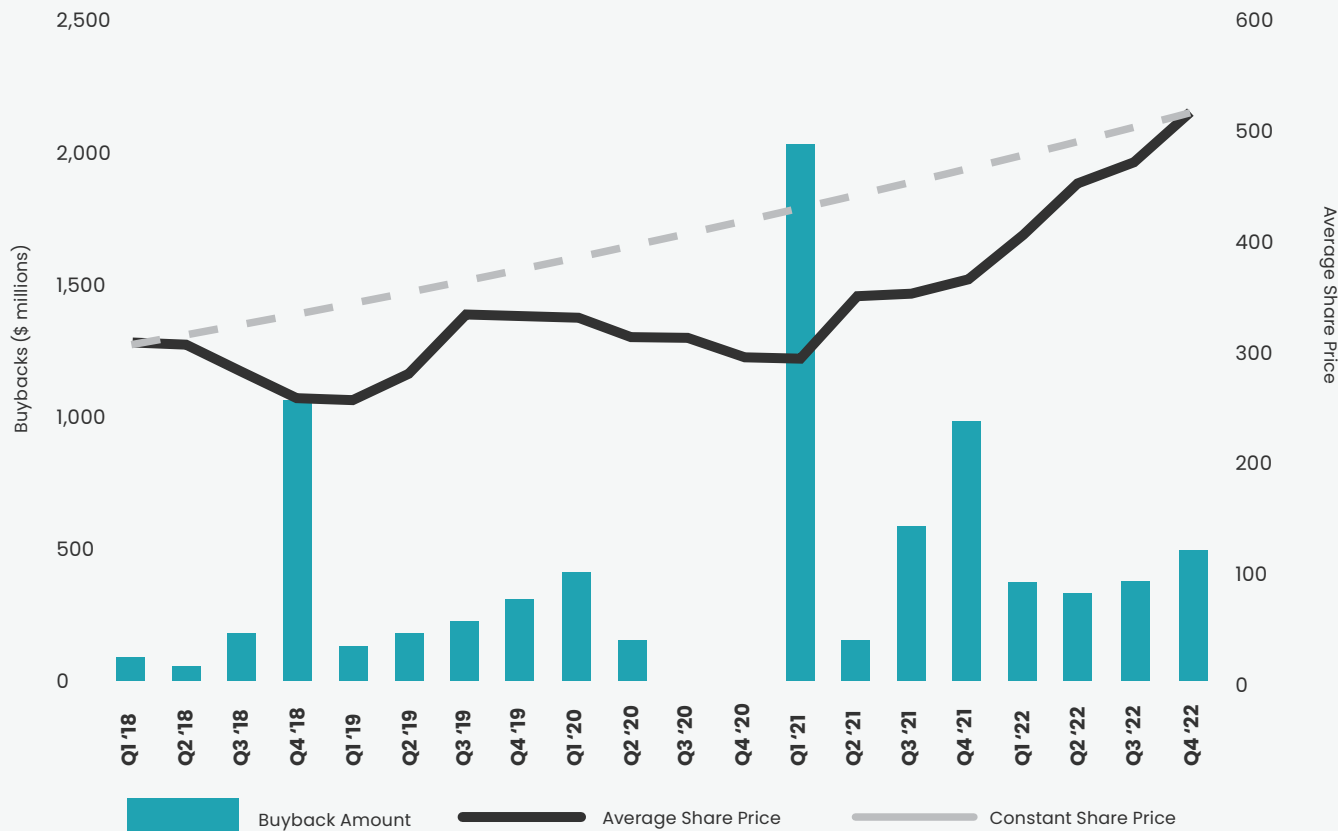
Rank	Company	Buybacks (\$ millions)	Buyback ROI	TSR	Buyback Effectiveness
1	APA Corporation	2,575	28.4%	3.2%	24.4%
2	Exxon Mobil Corporation	16,935	30.4%	11.0%	17.5%
3	The Cigna Group	1,174	3.3%	-11.5%	16.8%
4	General Mills, Inc.	2,085	29.8%	12.5%	15.4%
5	General Electric Company	21,720	26.7%	10.4%	14.8%
6	Diamondback Energy, Inc.	3,932	24.3%	8.8%	14.2%
7	Steel Dynamics, Inc.	3,840	37.2%	23.1%	11.4%
8	Principal Financial Group, Inc.	3,892	21.2%	8.8%	11.4%
9	Howmet Aerospace Inc.	1,853	26.2%	13.9%	10.8%
10	McKesson Corporation	12,109	34.1%	21.5%	10.4%

NOTE: TSR measured as the starting and ending average quarterly share price.

Northrop Grumman's Exceptional Buyback Effectiveness

Figure 10 shows Northrop Grumman's buybacks by quarter alongside their average share price for the quarter and their constant share price appreciation trend. Note the large volume of shares repurchased in Q4 2018 and Q1 2021, which represents almost 40% of their total buybacks over the last five years. In both these periods the company's average share price was below share price appreciation trendline, and even further below their 2022 ending share price. Furthermore, these two quarters represent the second- and fifth-best buyback opportunities for Northrop Grumman over the last five years. This repurchasing pattern helped Northrop Grumman get the most out of its buyback program.

FIGURE 10
Northrop Grumman's Buyback Effectiveness



Buyback ROI by Sector

In our last three reports, Energy has been dead last in our sector rankings. But this year the sector blew the competition out of the water, with a Buyback ROI of 24%—nearly 14% higher than the next highest sector, Health Care. A slew of catalysts propelled Energy's success, including supply shocks that helped drive record margins and revenues for the sector's constituents. On top of these tailwinds, the sector demonstrated exceptional Buyback Effectiveness of 8.1%, perhaps a result of its managements' experience navigating volatile price cycles.

Notably, it was the only sector with positive Buyback Effectiveness over the five-year period, which could be in part a function of its stark outperformance (and generally rising share price trend) versus the broader market in 2022. Figure 12 lists the top three Buyback ROI companies in each sector, along with their Buyback ROI results.



The Energy sector demonstrated exceptional Buyback Effectiveness of 8.1%, perhaps a result of its managements' experience navigating volatile price cycles.

FIGURE 11

Median Buyback ROI by Sector

Rank	Sector	Aggregate Buybacks (\$ millions)	Median		
			Buyback ROI	TSR	Buyback Effectiveness
1	Energy	116,842	24.2%	12.0%	8.1%
2	Health Care	404,265	10.4%	11.5%	-1.4%
3	Industrials	311,003	9.9%	11.0%	-0.4%
4	Consumer Staples	191,905	9.4%	10.1%	-0.6%
5	Information Technology	1,083,752	6.5%	12.2%	-3.6%
6	Financials	830,531	5.5%	7.7%	-0.6%
7	Utilities	11,761	4.3%	5.7%	-1.3%
8	Consumer Discretionary	327,849	2.8%	7.3%	-2.5%
9	Materials	83,280	1.9%	5.9%	-4.6%
10	Real Estate	9,435	0.2%	0.9%	-3.2%
11	Communication Services	404,921	-5.6%	-0.3%	-4.6%

NOTE: TSR measured as the starting and ending average quarterly share price.

NOTE: Medians affect the relationship of Buyback ROI, TSR, and Buyback Effectiveness

FIGURE 12 | Buyback ROI 2018–2022

Top Buyback ROI Companies by Sector**#1 in Sector**

Sector	Company	Buyback ROI
Energy	ConocoPhillips	30.8%
Health Care	Eli Lilly and Company	38.0%
Industrials	Quanta Services, Inc.	43.2%
Consumer Staples	Archer-Daniels-Midland Company	31.9%
Information Technology	KLA Corporation	29.8%
Financials	MSCI Inc.	26.3%
Utilities	Sempra Energy	13.8%
Consumer Discretionary	AutoZone, Inc.	33.0%
Materials	Steel Dynamics, Inc.	37.2%
Real Estate	SBA Communications Corporation	6.3%
Communication Services	T-Mobile US, Inc.	17.5%

#2 in Sector

Sector	Company	Buyback ROI
Energy	Exxon Mobil Corporation	30.4%
Health Care	Molina Healthcare, Inc.	36.7%
Industrials	Deere & Company	28.7%
Consumer Staples	General Mills, Inc.	29.8%
Information Technology	Fortinet, Inc.	29.4%
Financials	Ameriprise Financial, Inc.	25.6%
Utilities	NRG Energy, Inc.	5.1%
Consumer Discretionary	O'Reilly Automotive, Inc.	28.0%
Materials	CF Industries Holdings, Inc.	30.6%
Real Estate	Host Hotels & Resorts, Inc.	2.3%
Communication Services	The Interpublic Group of Companies, Inc.	10.6%

#3 in Sector

Sector	Company	Buyback ROI
Energy	APA Corporation	28.4%
Health Care	McKesson Corporation	34.1%
Industrials	Old Dominion Freight Line, Inc.	26.5%
Consumer Staples	The Hershey Company	22.0%
Information Technology	Arista Networks, Inc.	28.4%
Financials	Raymond James Financial, Inc.	24.8%
Utilities	Evergy, Inc.	4.3%
Consumer Discretionary	Tractor Supply Company	26.0%
Materials	Nucor Corporation	27.7%
Real Estate	Weyerhaeuser Company	0.3%
Communication Services	Omnicom Group Inc.	3.7%

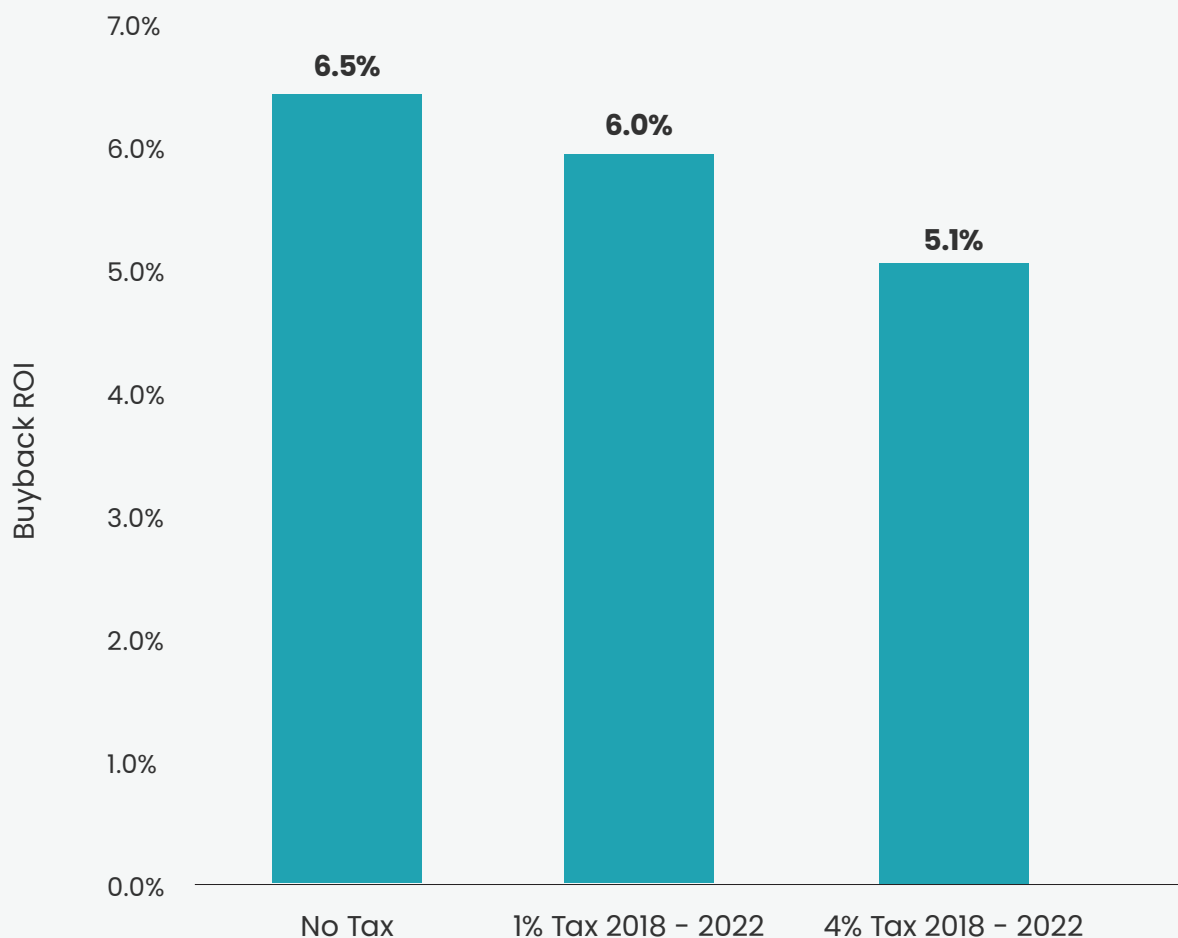
How Will New Taxes Affect Buyback ROI?

Perhaps the biggest news in 2022 related to stock buybacks was the imposition of a 1% tax on share repurchases, taking effect in 2023. In the subsequent commentary we will assess the impact that this new tax would have had on Buyback ROI over the five-year period of our study. Current legislation has been proposed to increase the buyback tax to 4%, so we will also assess the impact of this higher tax.

The calculation of the tax impact is straightforward. Buyback ROI is the internal rate of return (IRR) of three components over the last five years: buybacks, dividends avoided, and the value of shares repurchased at the end of the period. The new tax effectively increases the cost of shares repurchased—think of it as a commission one would pay to a brokerage when trading a stock.

Our pro forma analysis shows over the last five years that a one percent tax would have reduced the median buyback ROI in this study group from 6.5% to 6.0%. Naturally, the impact of the proposed 4% tax is more meaningful, yet still would have only decreased buyback ROI 138 basis points, from 6.5% to 5.1%, as shown in Figure 13.

FIGURE 13
Impact of Buyback Tax on Buyback ROI



The effect under the last scenario (4% tax) was obviously the most impactful, and may be enough to encourage some companies to keep capital they would otherwise have distributed to investors—but there are still some other factors to consider. First, buyback ROI is most dependent on share price appreciation. The S&P 500 declined by 20% in 2022, so, naturally, fewer companies had share price returns above their cost of capital. If managements believe that their share prices will outpace their cost of

capital in the future then a 4% tax on buybacks will do little to discourage future repurchases. Second, our decade-long study of buyback ROI shows that most companies time their buybacks poorly, evidenced by a negative median buyback effectiveness in most years. This suggests that few managements are considering their companies' intrinsic share price when making buyback decisions. Lastly, even with a 4% tax on

buybacks, most investors will likely prefer the flexibility of being able to defer taxes on their investments rather than paying them in the current year on dividends.

Concluding Remarks

Thank you for your time and interest in our analysis and commentary on this important subject. This report aims to help companies evaluate and make the most of their own buyback prospects and performance. We hope that, as attitudes about buybacks evolve, companies will continue to embrace careful and comprehensive planning for buybacks, as they would with any substantial capital outlay. Better-informed buyback programs can lead the way to more value creation for all stakeholders, and to a better overall allocation of resources across the economy.

Full List: 2023 Fortuna Advisors Buyback ROI Ranking

Rank	Company Name	Total Buybacks (\$ millions)	Buyback ROI	Buyback Effectiveness	Rank	Company Name	Total Buybacks (\$ millions)	Buyback ROI	Buyback Effectiveness
1	Quanta Services, Inc.	1,109	43.2%	9.4%	61	Dollar General Corporation	9,972	17.9%	-5.5%
2	Eli Lilly and Company	13,460	38.0%	1.8%	62	Lam Research Corporation	13,666	17.8%	-0.4%
3	Steel Dynamics, Inc.	3,840	37.2%	11.4%	63	T-Mobile US, Inc.	24,907	17.5%	-1.1%
4	Molina Healthcare, Inc.	1,296	36.7%	0.3%	64	AbbVie Inc.	16,042	17.3%	1.6%
5	McKesson Corporation	12,109	34.1%	10.4%	65	LKQ Corporation	2,030	17.2%	9.4%
6	AutoZone, Inc.	12,814	33.0%	1.9%	66	Humana Inc.	6,157	17.2%	0.1%
7	Archer-Daniels-Midland Company	1,810	31.9%	9.0%	67	Republic Services, Inc.	1,691	17.2%	-0.5%
8	ConocoPhillips	20,291	30.8%	6.8%	68	Dollar Tree, Inc.	2,354	17.0%	7.6%
9	CF Industries Holdings, Inc.	2,875	30.6%	4.3%	69	Thermo Fisher Scientific Inc.	8,665	16.8%	-4.9%
10	Exxon Mobil Corporation	16,935	30.4%	17.5%	70	MetLife, Inc.	15,057	16.8%	5.9%
11	General Mills, Inc.	2,085	29.8%	15.4%	71	Mettler-Toledo International Inc.	4,125	16.7%	0.7%
12	KLA Corporation	7,683	29.8%	0.2%	72	Johnson Controls International plc	11,363	16.6%	3.9%
13	Fortinet, Inc.	4,770	29.4%	-10.7%	73	Aflac Incorporated	9,169	16.5%	4.0%
14	Deere & Company	10,343	28.7%	2.3%	74	The J. M. Smucker Company	967	16.5%	6.6%
15	APA Corporation	2,575	28.4%	24.4%	75	Caterpillar Inc.	15,876	16.5%	3.9%
16	Arista Networks, Inc.	1,819	28.4%	8.7%	76	Marsh & McLennan Companies, Inc.	4,856	16.5%	0.0%
17	Marathon Petroleum Corporation	15,645	28.3%	9.2%	77	Lockheed Martin Corporation	15,694	16.3%	4.8%
18	Cadence Design Systems, Inc.	3,099	28.1%	-1.5%	78	QUALCOMM Incorporated	36,876	16.1%	-1.0%
19	O'Reilly Automotive, Inc.	10,992	28.0%	-1.0%	79	Regeneron Pharmaceuticals, Inc.	12,390	16.1%	3.0%
20	Apple Inc.	419,781	27.7%	-1.1%	80	Morgan Stanley	36,356	16.0%	1.7%
21	Nucor Corporation	7,437	27.7%	5.1%	81	Etsy, Inc.	1,610	15.8%	-20.3%
22	Devon Energy Corporation	6,364	27.6%	8.9%	82	FMC Corporation	1,198	15.6%	4.5%
23	Gartner, Inc.	3,335	27.4%	4.8%	83	Waste Management, Inc.	4,667	15.4%	-1.1%
24	The Cigna Group	21,720	26.7%	14.8%	84	CDW Corporation	3,157	15.4%	-5.5%
25	Marathon Oil Corporation	4,677	26.6%	9.4%	85	Linde plc	14,897	15.2%	-2.6%
26	Old Dominion Freight Line, Inc.	2,582	26.5%	-2.1%	86	The Goldman Sachs Group, Inc.	24,530	15.1%	5.2%
27	MSCI Inc.	3,616	26.3%	-3.9%	87	The Kroger Co.	6,439	15.1%	-1.6%
28	Howmet Aerospace Inc.	1,853	26.2%	10.8%	88	Parker-Hannifin Corporation	2,121	15.0%	3.7%
29	Tractor Supply Company	2,781	26.0%	-2.2%	89	Bristol-Myers Squibb Company	23,454	15.0%	7.4%
30	United Rentals, Inc.	3,075	25.7%	7.8%	90	Microsoft Corporation	119,767	14.9%	-8.4%
31	Ameriprise Financial, Inc.	9,022	25.6%	7.9%	91	Aon plc	11,987	14.9%	-1.4%
32	Synopsys, Inc.	3,485	25.5%	-2.9%	92	Valero Energy Corporation	7,573	14.7%	0.8%
33	Raymond James Financial, Inc.	1,647	24.8%	7.6%	93	Monster Beverage Corporation	3,430	14.7%	4.1%
34	Hess Corporation	2,020	24.5%	-2.0%	94	Lowe's Companies, Inc.	39,457	14.6%	-5.6%
35	Diamondback Energy, Inc.	3,932	24.3%	14.2%	95	PepsiCo, Inc.	9,118	14.6%	1.8%
36	Northrop Grumman Corporation	8,006	24.1%	9.3%	96	Texas Instruments Incorporated	14,755	14.5%	0.1%
37	Pioneer Natural Resources Company	2,964	24.0%	9.5%	97	Chubb Limited	11,034	14.5%	5.0%
38	UnitedHealth Group Incorporated	26,250	23.5%	1.4%	98	Gen Digital Inc.	2,787	14.5%	7.0%
39	Arch Capital Group Ltd.	2,189	23.2%	10.2%	99	Teradyne, Inc.	2,887	14.5%	-1.7%
40	Chipotle Mexican Grill, Inc.	1,946	22.8%	-11.1%	100	Avery Dennison Corporation	1,415	14.4%	1.7%
41	Elevance Health, Inc.	10,790	22.7%	1.9%	101	Amphenol Corporation	3,403	14.3%	1.6%
42	Eaton Corporation plc	4,530	22.1%	3.6%	102	J.B. Hunt Transport Services, Inc.	1,093	14.3%	2.9%
43	The Hershey Company	1,885	22.0%	2.9%	103	Merck & Co., Inc.	15,992	14.2%	-2.1%
44	W.W. Grainger, Inc.	3,118	22.0%	-1.9%	104	Ulta Beauty, Inc.	3,876	14.1%	-1.1%
45	Cintas Corporation	3,901	21.5%	-2.5%	105	EQT Corporation	1,007	13.9%	8.7%
46	Chevron Corporation	15,541	21.3%	7.4%	106	Dover Corporation	1,920	13.9%	0.3%
47	Principal Financial Group, Inc.	3,892	21.2%	11.4%	107	Sempra Energy	1,433	13.8%	4.1%
48	Broadcom Inc.	25,761	20.7%	2.3%	108	NVIDIA Corporation	17,522	13.8%	-8.5%
49	The Charles Schwab Corporation	6,615	20.1%	7.2%	109	General Dynamics Corporation	4,844	13.8%	7.3%
50	Keysight Technologies, Inc.	2,592	20.0%	-8.8%	110	Cummins Inc.	4,891	13.7%	3.5%
51	Costco Wholesale Corporation	3,302	19.9%	-4.0%	111	Applied Materials, Inc.	18,517	13.1%	-0.3%
52	AmerisourceBergen Corporation	3,228	19.8%	3.5%	112	Berkshire Hathaway Inc.	65,817	12.9%	3.1%
53	Motorola Solutions, Inc.	2,424	19.8%	-3.7%	113	McDonald's Corporation	15,833	12.9%	0.7%
54	Vertex Pharmaceuticals Incorporated	3,015	19.6%	3.5%	114	United Parcel Service, Inc.	6,246	12.7%	1.2%
55	Trane Technologies plc	4,201	19.3%	-1.8%	115	D.R. Horton, Inc.	3,264	12.7%	-0.1%
56	Cardinal Health, Inc.	3,847	18.8%	9.9%	116	Amgen Inc.	40,443	12.5%	0.5%
57	Automatic Data Processing, Inc.	6,420	18.5%	-0.4%	117	The TJX Companies, Inc.	8,686	12.5%	-3.8%
58	Nasdaq, Inc.	2,661	18.4%	-2.8%	118	Everest Re Group, Ltd.	669	12.5%	2.9%
59	FactSet Research Systems Inc.	976	18.1%	-0.3%	119	The Mosaic Company	2,226	12.2%	-4.6%
60	Agilent Technologies, Inc.	3,818	18.1%	0.9%	120	Leidos Holdings, Inc.	1,813	12.1%	0.0%

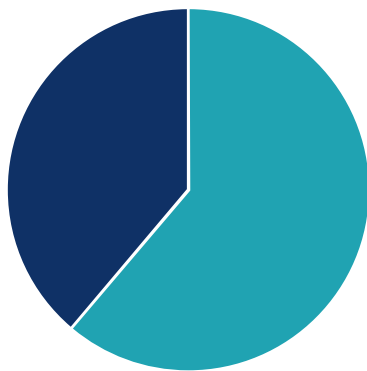
Rank	Company Name	Total Buybacks (\$ millions)	Buyback ROI	Buyback Effectiveness	Rank	Company Name	Total Buybacks (\$ millions)	Buyback ROI	Buyback Effectiveness
121	Snap-on Incorporated	1,326	12.1%	2.3%	181	International Business Machines Corporation	7,275	6.5%	2.6%
122	The Travelers Companies, Inc.	7,802	11.8%	2.7%	182	Microchip Technology Incorporated	1,454	6.4%	-3.6%
123	Jacobs Solutions Inc.	1,998	11.8%	-2.6%	183	SBA Communications Corporation	3,309	6.3%	-5.4%
124	Oracle Corporation	106,349	11.8%	0.8%	184	Moody's Corporation	3,843	6.3%	-7.1%
125	IQVIA Holdings Inc.	4,382	11.8%	-2.6%	185	ServiceNow, Inc.	2,239	6.2%	-15.6%
126	Hilton Worldwide Holdings Inc.	5,392	11.6%	-0.9%	186	Analog Devices, Inc.	7,412	6.2%	-7.0%
127	HCA Healthcare, Inc.	18,217	11.5%	-10.0%	187	Centene Corporation	4,157	6.0%	-4.5%
128	The Home Depot, Inc.	39,224	11.5%	-2.8%	188	Zoetis Inc.	3,990	5.9%	-9.7%
129	Accenture plc	16,921	11.4%	-3.5%	189	Phillips 66	8,251	5.9%	0.2%
130	Illinois Tool Works Inc.	6,956	11.4%	2.6%	190	Robert Half International Inc.	1,398	5.7%	-3.5%
131	NXP Semiconductors N.V.	12,787	11.3%	3.3%	191	PTC Inc.	1,634	5.6%	-7.3%
132	Regions Financial Corporation	2,754	11.2%	1.1%	192	Visa Inc.	46,168	5.5%	-7.0%
133	Starbucks Corporation	22,172	11.2%	-1.6%	193	Citizens Financial Group, Inc.	3,061	5.5%	1.6%
134	Hologic, Inc.	2,304	11.2%	-1.0%	194	The PNC Financial Services Group, Inc.	12,889	5.4%	-0.4%
135	Rockwell Automation, Inc.	3,323	11.0%	3.0%	195	Intercontinental Exchange, Inc.	5,149	5.4%	-3.4%
136	Westinghouse Air Brake Technologies Corporation	995	11.0%	5.5%	196	Ingersoll Rand Inc.	1,059	5.3%	-5.5%
137	Pool Corporation	896	10.9%	-9.3%	197	IDEXX Laboratories, Inc.	2,484	5.3%	-12.1%
138	The Hartford Financial Services Group, Inc.	3,685	10.9%	2.9%	198	Intuit Inc.	6,679	5.2%	-13.8%
139	Quest Diagnostics Incorporated	4,709	10.8%	-0.1%	199	Verisk Analytics, Inc.	3,195	5.1%	-8.4%
140	Waters Corporation	5,256	10.8%	0.4%	200	NRG Energy, Inc.	3,573	5.1%	-4.6%
141	BlackRock, Inc.	9,624	10.8%	1.4%	201	NVR, Inc.	4,954	5.1%	-1.1%
142	Globe Life Inc.	2,073	10.7%	3.7%	202	Marriott International, Inc.	8,361	5.0%	-0.4%
143	The Interpublic Group of Companies, Inc.	577	10.6%	-2.7%	203	Loews Corporation	4,865	4.8%	1.8%
144	Coterra Energy Inc.	2,810	10.6%	6.5%	204	American Express Company	18,553	4.8%	-5.4%
145	Jack Henry & Associates, Inc.	807	10.4%	-1.3%	205	Textron Inc.	3,331	4.6%	-0.1%
146	Emerson Electric Co.	5,692	10.3%	0.6%	206	Aptiv PLC	1,159	4.4%	1.3%
147	The Allstate Corporation	10,499	10.1%	1.8%	207	Henry Schein, Inc.	1,768	4.4%	-1.1%
148	Intuitive Surgical, Inc.	3,871	10.1%	-3.6%	208	Bank of America Corporation	85,462	4.3%	-2.4%
149	Walmart Inc.	35,459	10.0%	-1.1%	209	JPMorgan Chase & Co.	72,071	4.3%	-3.1%
150	Mondelez International, Inc.	9,017	9.9%	-0.9%	210	Evergy, Inc.	2,671	4.3%	-1.3%
151	Kellogg Company	1,080	9.8%	3.4%	211	The Sherwin-Williams Company	7,474	4.3%	-7.7%
152	Darden Restaurants, Inc.	2,000	9.7%	-3.2%	212	LyondellBasell Industries N.V.	6,493	4.3%	3.3%
153	Expeditors International of Washington, Inc.	3,521	9.6%	-2.4%	213	Huntington Bancshares Incorporated	2,181	4.2%	-0.8%
154	The Coca-Cola Company	4,663	9.4%	0.3%	214	PPG Industries, Inc.	2,075	4.1%	1.1%
155	Pfizer Inc.	23,063	9.3%	-1.6%	215	Corning Incorporated	3,886	4.0%	0.7%
156	Raytheon Technologies Corporation	5,617	9.2%	0.8%	216	State Street Corporation	5,385	4.0%	6.5%
157	The Procter & Gamble Company	42,173	9.1%	-2.8%	217	Occidental Petroleum Corporation	4,607	4.0%	0.7%
158	American International Group, Inc.	8,320	9.1%	7.2%	218	NIKE, Inc.	17,005	3.9%	-8.0%
159	Johnson & Johnson	25,326	9.0%	1.7%	219	Constellation Brands, Inc.	4,209	3.9%	0.4%
160	HP Inc.	18,253	9.0%	0.3%	220	S&P Global Inc.	16,428	3.9%	-10.5%
161	Yum! Brands, Inc.	6,235	8.9%	-1.8%	221	The Estée Lauder Companies Inc.	6,108	3.9%	-9.0%
162	Lennar Corporation	3,614	8.4%	0.1%	222	Omnicom Group Inc.	2,552	3.7%	-0.8%
163	Honeywell International Inc.	19,694	8.3%	-1.1%	223	Cincinnati Financial Corporation	1,007	3.6%	-5.5%
164	Gilead Sciences, Inc.	8,174	8.2%	3.2%	224	Kimberly-Clark Corporation	2,800	3.6%	-1.5%
165	Willis Towers Watson Public Limited Company	4,907	8.0%	-1.1%	225	Huntington Ingalls Industries, Inc.	1,323	3.6%	1.6%
166	Juniper Networks, Inc.	2,451	7.8%	2.3%	226	Conagra Brands, Inc.	924	3.5%	0.1%
167	Union Pacific Corporation	31,307	7.8%	-5.1%	227	Edwards Lifesciences Corporation	3,924	3.5%	-10.8%
168	Mastercard Incorporated	31,225	7.8%	-8.6%	228	General Motors Company	2,690	3.5%	4.7%
169	Cboe Global Markets, Inc.	891	7.7%	5.1%	229	General Electric Company	1,174	3.3%	16.8%
170	Norfolk Southern Corporation	12,823	7.5%	-5.8%	230	Electronic Arts Inc.	6,284	3.1%	0.4%
171	Broadridge Financial Solutions, Inc.	788	7.4%	-4.2%	231	Micron Technology, Inc.	7,202	3.1%	-1.9%
172	TE Connectivity Ltd.	4,856	7.3%	0.2%	232	Ross Stores, Inc.	4,349	3.0%	-5.3%
173	Fifth Third Bancorp	4,709	7.3%	0.4%	233	Colgate-Palmolive Company	6,544	3.0%	0.0%
174	Stryker Corporation	1,209	7.3%	-2.0%	234	Masco Corporation	4,098	2.8%	-2.0%
175	Discover Financial Services	8,800	7.2%	-2.8%	235	CVS Health Corporation	4,322	2.8%	-5.6%
176	CSX Corporation	16,528	7.0%	-5.0%	236	NetApp, Inc.	5,664	2.7%	-5.5%
177	L3Harris Technologies, Inc.	10,417	6.9%	-4.5%	237	Domino's Pizza, Inc.	3,247	2.6%	-10.5%
178	Prudential Financial, Inc.	8,488	6.9%	4.1%	238	Zions Bancorporation, National Association	2,852	2.5%	-1.1%
179	Target Corporation	14,674	6.8%	-13.9%	239	Laboratory Corporation of America Holdings	4,240	2.5%	-5.4%
180	Sysco Corporation	2,863	6.6%	-3.1%	240	Host Hotels & Resorts, Inc.	656	2.3%	1.9%

Rank	Company Name	Total Buybacks (\$ millions)	Buyback ROI	Buyback Effectiveness	Rank	Company Name	Total Buybacks (\$ millions)	Buyback ROI	Buyback Effectiveness
241	Alphabet Inc.	168,190	2.2%	-9.5%	301	Skyworks Solutions, Inc.	3,376	-5.1%	-3.8%
242	C.H. Robinson Worldwide, Inc.	2,939	2.1%	-3.2%	302	Tyson Foods, Inc.	1,804	-5.2%	-4.2%
243	M&T Bank Corporation	5,718	2.1%	-0.5%	303	Medtronic plc	8,154	-5.5%	-7.9%
244	Altria Group, Inc.	6,018	2.1%	3.0%	304	Cognizant Technology Solutions Corporation	7,322	-5.5%	-2.5%
245	Signature Bank	456	2.0%	-0.2%	305	Best Buy Co., Inc.	7,336	-6.2%	-12.8%
246	Cisco Systems, Inc.	51,289	2.0%	-5.7%	306	Essex Property Trust, Inc.	594	-6.3%	-6.4%
247	Church & Dwight Co., Inc.	1,250	2.0%	-8.8%	307	Expedia Group, Inc.	2,863	-6.5%	-0.9%
248	Newmont Corporation	1,697	1.9%	-4.7%	308	Dominion Energy, Inc.	3,080	-6.6%	-5.7%
249	Hewlett Packard Enterprise Company	6,228	1.9%	-2.1%	309	Wynn Resorts, Limited	439	-6.7%	7.0%
250	PulteGroup, Inc.	2,771	1.8%	-5.4%	310	Adobe Inc.	21,101	-7.0%	-17.9%
251	Baker Hughes Company	1,649	1.8%	1.7%	311	AT&T Inc.	8,932	-7.1%	-5.2%
252	SVB Financial Group	560	1.7%	-1.3%	312	Ball Corporation	3,211	-7.2%	-12.4%
253	VeriSign, Inc.	3,969	1.7%	-8.7%	313	Las Vegas Sands Corp.	1,660	-7.5%	-1.2%
254	Sealed Air Corporation	1,210	1.6%	-1.1%	314	Newell Brands Inc.	1,933	-7.7%	6.1%
255	KeyCorp	3,403	1.1%	-1.3%	315	F5, Inc.	1,836	-7.9%	-10.9%
256	Comerica Incorporated	3,706	1.1%	0.2%	316	Qorvo, Inc.	3,745	-8.0%	-11.8%
257	Trimble Inc.	1,014	1.1%	-4.9%	317	Hasbro, Inc.	599	-8.8%	-4.0%
258	Tapestry, Inc.	2,439	0.9%	1.9%	318	Eastman Chemical Company	2,825	-9.0%	-9.6%
259	Fiserv, Inc.	9,109	0.7%	-7.6%	319	Baxter International Inc.	3,430	-9.1%	-7.0%
260	Biogen Inc.	19,450	0.7%	3.3%	320	Walgreens Boots Alliance, Inc.	8,918	-9.2%	-0.6%
261	A. O. Smith Corporation	1,333	0.6%	0.5%	321	International Paper Company	3,432	-9.6%	-5.4%
262	Synchrony Financial	12,667	0.5%	-2.0%	322	CarMax, Inc.	2,737	-9.6%	-7.7%
263	Weyerhaeuser Company	1,069	0.3%	-1.1%	323	Citigroup Inc.	38,050	-9.6%	-3.5%
264	Pentair plc	959	0.3%	0.4%	324	Alaska Air Group, Inc.	833	-9.7%	-1.6%
265	MGM Resorts International	7,197	0.1%	-2.2%	325	Southwest Airlines Co.	4,451	-9.9%	-1.2%
266	CBRE Group, Inc.	2,744	0.0%	-10.9%	326	Delta Air Lines, Inc.	3,946	-10.7%	-3.3%
267	DaVita Inc.	7,454	-0.1%	-4.6%	327	3M Company	10,308	-10.8%	-2.1%
268	Booking Holdings Inc.	22,245	-0.2%	-1.1%	328	Freeport-McMoRan Inc.	1,941	-11.5%	-26.0%
269	BorgWarner Inc.	706	-0.3%	4.3%	329	Comcast Corporation	24,358	-11.9%	-11.5%
270	ANSYS, Inc.	1,134	-0.3%	-9.8%	330	FedEx Corporation	5,978	-12.1%	-7.6%
271	Northern Trust Corporation	2,627	-0.4%	-1.3%	331	FLEETCOR Technologies, Inc.	5,264	-13.2%	-13.9%
272	Invesco Ltd.	874	-0.6%	10.0%	332	Capital One Financial Corporation	13,776	-13.5%	-16.3%
273	Akamai Technologies, Inc.	2,819	-0.7%	-9.3%	333	Western Digital Corporation	1,646	-14.9%	-0.1%
274	PPL Corporation	1,004	-0.7%	-0.5%	334	Lincoln National Corporation	3,380	-15.5%	-6.6%
275	T. Rowe Price Group, Inc.	5,180	-1.0%	-6.9%	335	The Boeing Company	12,435	-15.7%	-7.7%
276	eBay Inc.	24,724	-1.1%	-4.3%	336	Intel Corporation	40,997	-15.8%	-10.3%
277	Wells Fargo & Company	70,547	-1.3%	0.7%	337	United Airlines Holdings, Inc.	3,233	-16.0%	-8.5%
278	The Walt Disney Company	2,264	-1.3%	-0.5%	338	WestRock Company	1,037	-16.1%	-9.0%
279	Bio-Rad Laboratories, Inc.	509	-1.3%	-10.9%	339	PayPal Holdings, Inc.	16,954	-16.1%	-17.8%
280	Allegion plc	976	-1.8%	-7.1%	340	Royal Caribbean Cruises Ltd.	676	-16.7%	-2.3%
281	Ralph Lauren Corporation	2,175	-1.9%	-5.3%	341	DXC Technology Company	2,372	-17.8%	0.7%
282	Assurant, Inc.	2,166	-1.9%	-9.4%	342	Illumina, Inc.	2,073	-18.0%	-18.1%
283	Advance Auto Parts, Inc.	2,774	-1.9%	-13.3%	343	DENTSPLY SIRONA Inc.	1,000	-18.5%	-6.2%
284	Autodesk, Inc.	4,234	-2.2%	-12.3%	344	Charter Communications, Inc.	48,197	-18.6%	-19.1%
285	Abbott Laboratories	7,453	-2.3%	-15.2%	345	Zebra Technologies Corporation	1,067	-19.2%	-32.1%
286	The Bank of New York Mellon Corporation	12,400	-2.3%	-0.6%	346	Align Technology, Inc.	1,867	-19.8%	-17.7%
287	The Clorox Company	2,040	-2.4%	-5.7%	347	Paramount Global	752	-20.5%	-2.6%
288	Franklin Resources, Inc.	2,602	-2.4%	3.2%	348	Fidelity National Information Services, Inc.	5,891	-21.6%	-18.2%
289	Packaging Corporation of America	771	-2.6%	-6.9%	349	Bath & Body Works, Inc.	3,601	-21.7%	-23.1%
290	Simon Property Group, Inc.	1,063	-2.8%	-0.5%	350	American Airlines Group Inc.	2,146	-21.9%	0.8%
291	U.S. Bancorp	10,643	-3.0%	-1.8%	351	Global Payments Inc.	6,895	-24.1%	-25.0%
292	Ecolab Inc.	1,471	-3.1%	-6.0%	352	Mohawk Industries, Inc.	1,789	-24.4%	-7.6%
293	Becton, Dickinson and Company	1,250	-3.7%	-7.2%	353	Norwegian Cruise Line Holdings Ltd.	1,103	-26.2%	-4.3%
294	Take-Two Interactive Software, Inc.	1,040	-4.2%	-4.0%	354	Warner Bros. Discovery, Inc.	1,602	-27.5%	-19.1%
295	Celanese Corporation	3,093	-4.3%	-5.0%	355	V.F. Corporation	1,758	-28.9%	-18.7%
296	Seagate Technology Holdings plc	6,263	-4.5%	-14.6%	356	Meta Platforms, Inc.	114,065	-39.2%	-34.1%
297	Whirlpool Corporation	3,366	-4.8%	-4.6%	357	Carnival Corporation & plc	2,371	-39.4%	-10.5%
298	Truist Financial Corporation	3,071	-4.9%	-6.4%	358	Lumen Technologies, Inc.	1,200	-39.5%	-32.4%
299	DuPont de Nemours, Inc.	12,663	-4.9%	2.1%	359	Amazon.com, Inc.	6,000	-41.4%	-47.9%
300	Universal Health Services, Inc.	3,428	-5.0%	-7.2%	360	Advanced Micro Devices, Inc.	6,191	-44.8%	-61.0%

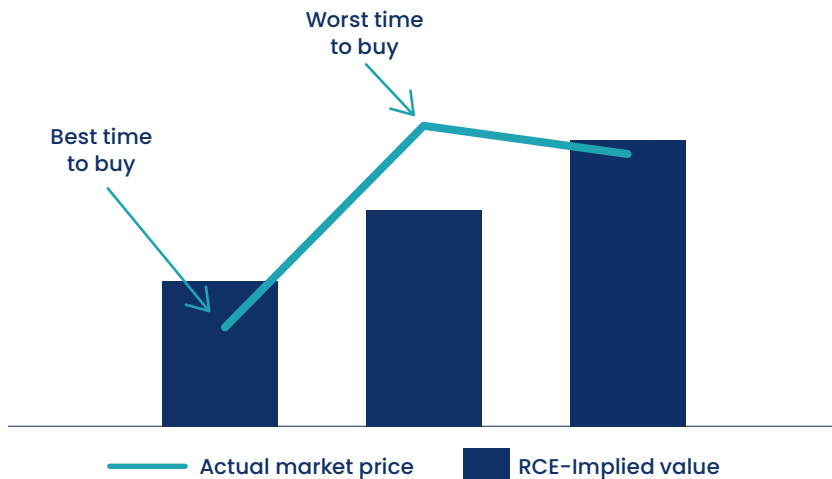
Managements know the key to creating value from buybacks is to concentrate repurchases when share prices are low. Unfortunately for all stakeholders, more than half of S&P 500 repurchasers bought back more shares when their prices were above the trend, from 2018–2022.

VIBE is a fact-based platform that provides managements with real-time signals to help override natural biases, limited information, and human error to better inform the timing of share repurchases.

Buyback programs can and should be sources of immense value for many companies. VIBE can help them harness it.



FROM 2018–2022
61%
of S&P 500 repurchasers failed to create value from stock buybacks



VIBE signals include:

1

PERFORMANCE & VALUATION

Based on the company and its peers, indicates the likelihood of a desirable Buyback ROI.

2

CONSENSUS VS. PRICE

Based on the dividend yield and an expected share price CAGR, derived from consensus EPS growth.

3

RCE-IMPLIED PREMIUM

Based on Fortuna Advisors' Residual Cash Earnings (RCE) measure of intrinsic share value.

4

VIBE SIMULATIONS

Based on 1000+ simulations that incorporate growth, margins, and asset intensity.