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TRIVARIATE RESEARCH

DO BUYBACKS MATTER NOW?

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BACKGROUND AND RESEARCH SUMMARY

Buybacks in aggregate have been a waste of capital: There is ample evidence that management teams of most companies should be questioning the value of large share buybacks. **On average, among mega-/large-cap stocks they were not rewarded, as share reductions over a 12-month period of 0.5% to 2.05% resulted in similar subsequent volatility-adjusted performance compared to those companies increasing their net share counts by 0.5% to 2.5%**. This means deploying the capital elsewhere – on average – would have been more prudent. Among small caps, overall efficacy is weaker than for mega/large caps, and we don't broadly conclude buying stocks with large net share reductions is better than those with material dilution.

It's different for growth vs. value: There does appear to be a penalty for growth companies that massively dilute their share count compared to those who do not, but less between those with modest net buybacks vs. large ones. We would have guessed that buybacks would be a good strategy for value stocks, as it can often be a meaningful source of EPS growth for that cohort. However, there is virtually no subsequent performance differentiation among value stocks for big decreases or no change to shares outstanding over a 12-month period, and only modest outperformance vs. large dilution. **It is clear that buybacks drive subsequent performance more for growth than value stocks.**

The logic for many buybacks is dubious: Despite buybacks having questionable efficacy in aggregate, they have become a popular way for management teams to deploy capital over the last 25 years. Twice as many companies buy back stock today vs. 25 years ago, and the number of companies issuing stock has declined while those purchasing has grown. 17% of all companies that implement a buyback have negative free cash flow yield and 13% of all companies with negative net income engage in concurrent repurchases.

INVESTMENT CONCLUSIONS

Valuation really matters: The performance of large buybacks is clearly subsequently better when the stock is cheap when there's a large net buyback than when the stock is expensive vs. its own history. Stocks that are cheap with large buybacks beat their industry average by 1.3%-4.8% over the next year, while those doing high buybacks that are expensive lag. Over time, buying back stock when it is cheap results in 120% relative performance vs. buying back stock when it is expensive. Yet, <u>valuation also doesn't appear to be a reason management teams buy back stock</u> – as just as many buy back a lot of stock when it is expensive vs. its own history as when it is cheap. Slide 9 has long and short ideas based on valuation and net buyback yield.

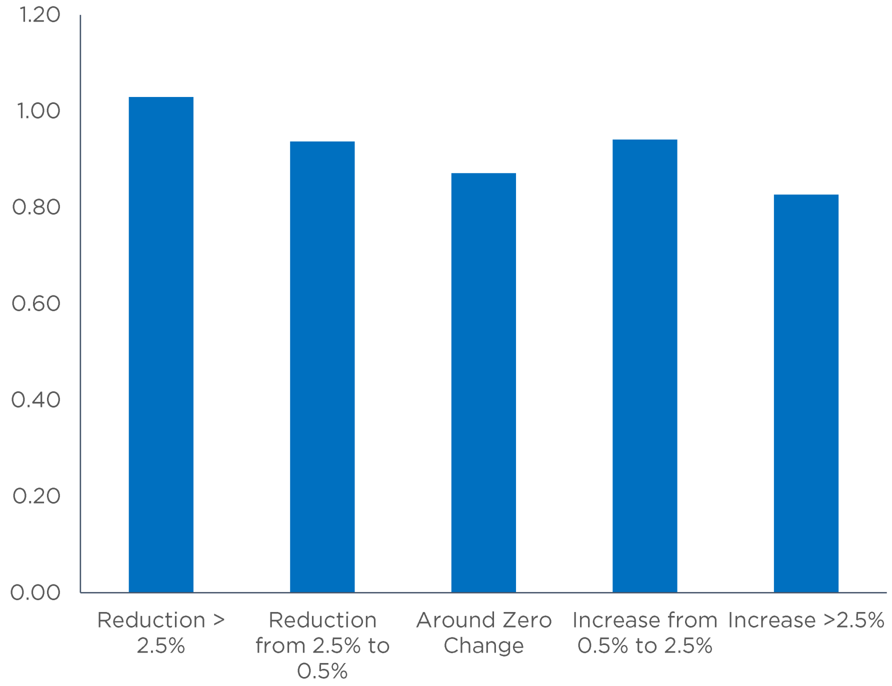
Buyback efficacy after the S&P500 is down: We analyzed the performance of buybacks as a signal for the one-month period following when the S&P500 is up and compared the results to periods following the S&P being down. Ideally companies buy back their stock "low" and "sell high." By this we mean, management teams take advantage of market conditions to buy their stock well. <u>Buyback yield is FAR more effective in months following when the market was down and adds basically NO value in months following when the market was up.</u> Given the market is down this month, companies doing buybacks this month will likely outperform in April.

Accelerated share repurchases work better than buybacks: Companies engaging in ASRs often act poorly (about 2% on average) vs. their industry average prior to the ASR announcement then fully catch up on the announcement. Over the subsequent two years, the average company performing an ASR has beaten its industry group returns by 10%. <u>Since COVID however, companies performing ASRs have strongly outperformed their industry groups, by 17% on average after the first year.</u> The performance of the second and third or more ASR was on average better than the first. **Companies who have previously executed a successful ASR and believe their stock is cheap should consider a new ASR in 2025. Slide 15 shows companies who should do an ASR.**

BUYBACKS HAVE IN AGGREGATE BEEN A WASTE OF MONEY

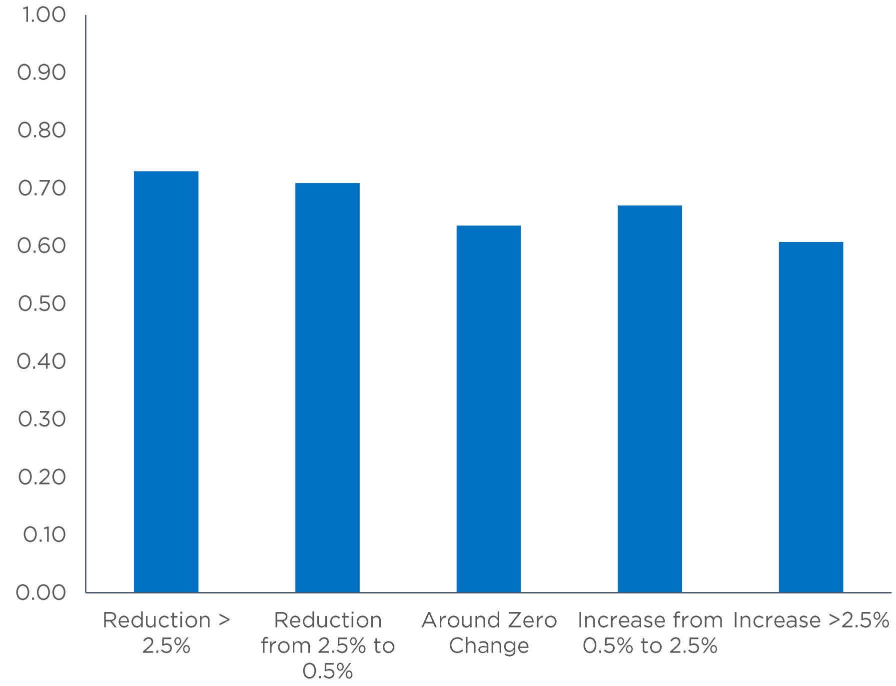
There is ample evidence that management teams of most companies should be questioning the value of large buybacks. On average, among mega-/large-cap stocks they were not rewarded, as share reductions over a 12-month period of 0.5% to 2.05% resulted in similar subsequent volatility-adjusted performance compared to those companies increasing their net share counts by 0.5% to 2.5% (left). This means deploying the capital elsewhere – on average – would have been more prudent. Among small caps. (right), overall efficacy is weaker than for mega/large caps, and we don't broadly conclude buying stocks with large net share reductions is better than those with material dilution.

Mega & Large Cap.
Information Ratio of 12m % Change in Shares Outstanding
From June 2009 to End-February, 2025



Source: Trivariate Research

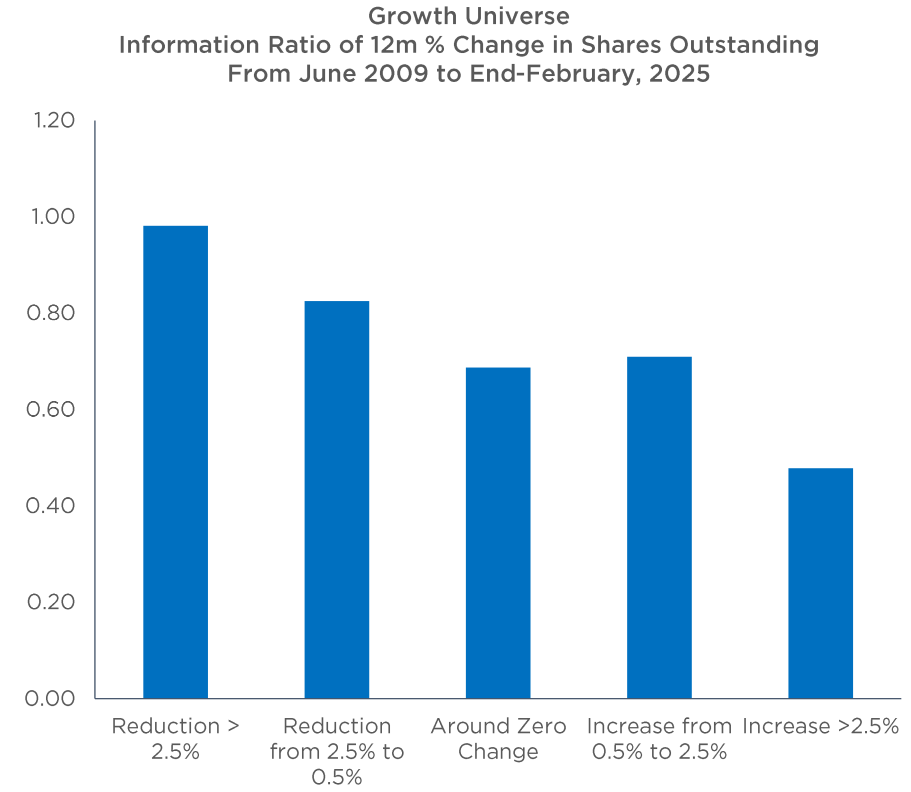
Small Cap.
Information Ratio of 12m % Change in Shares Outstanding
From June 2009 to End-February, 2025



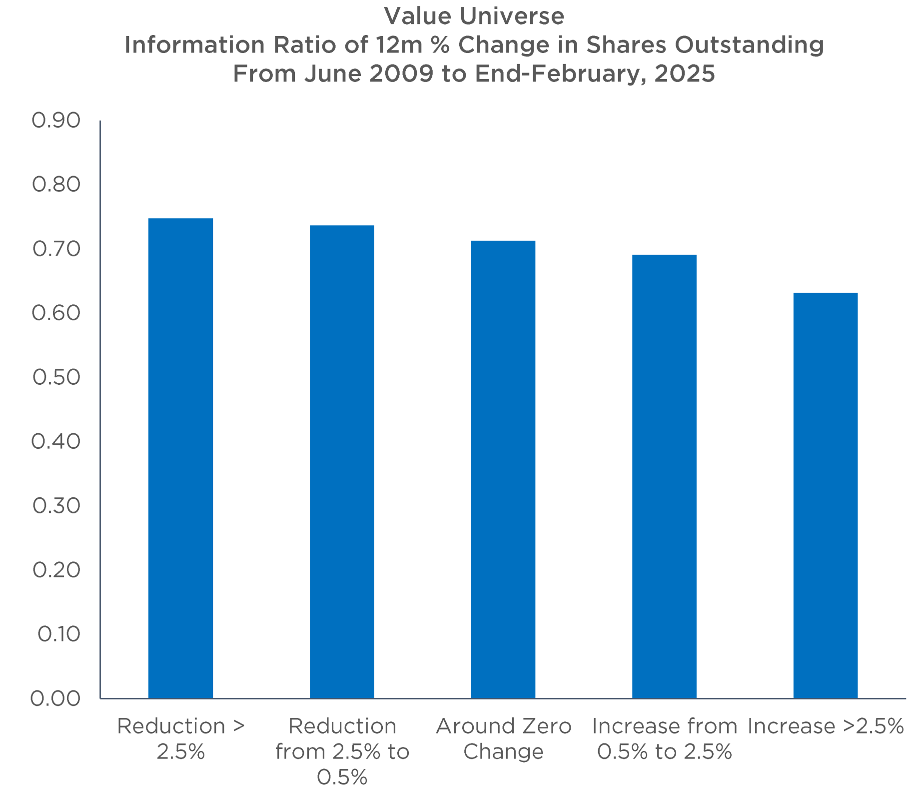
Source: Trivariate Research

BUYBACKS WORK BETTER FOR GROWTH STOCKS THAN VALUE STOCKS

There does appear to be a penalty for growth stocks who massively dilute compared to those who do not (left side), but less between those with modest net buybacks vs. large ones. We would have guessed that buybacks would be a good strategy for value stocks, as it can often be a meaningful source of EPS growth for that cohort. However, there is virtually no subsequent performance differentiation among value stocks for big decreases or no change to shares outstanding over a 12-month period (right), and only modest outperformance vs. large dilution. <u>It is clear that buybacks drive subsequent performance more for growth than value stocks.</u>



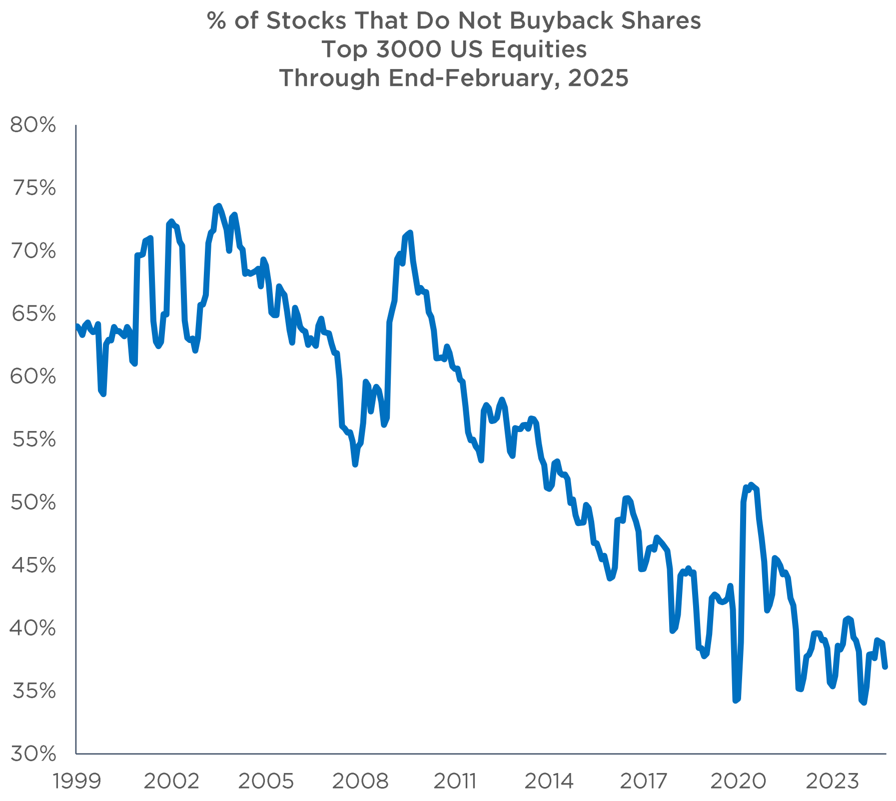
Source: Trivariate Research



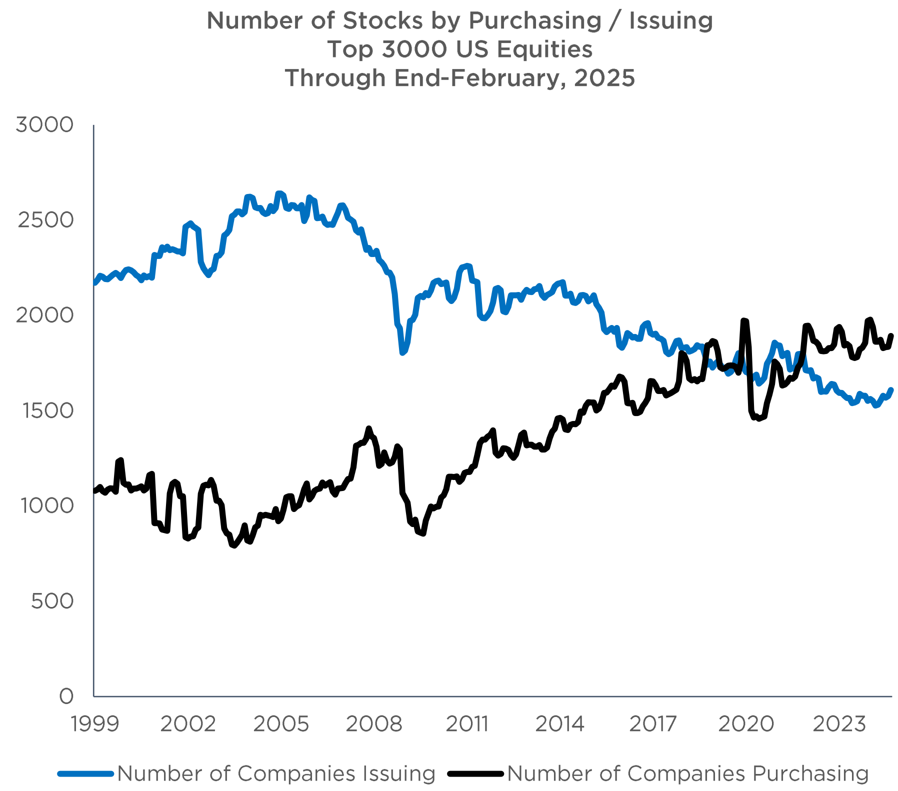
Source: Trivariate Research

BUYBACKS HAVE BECOME INCREASINGLY POPULAR

Despite buybacks having questionable efficacy in aggregate, they have become a more popular way for management teams to deploy capital over the last 25 years. Twice as many companies buy back stock today vs. 25 years ago (left), and the number of companies issuing stock has declined while those purchasing has grown (right).



Source: Trivariate Research

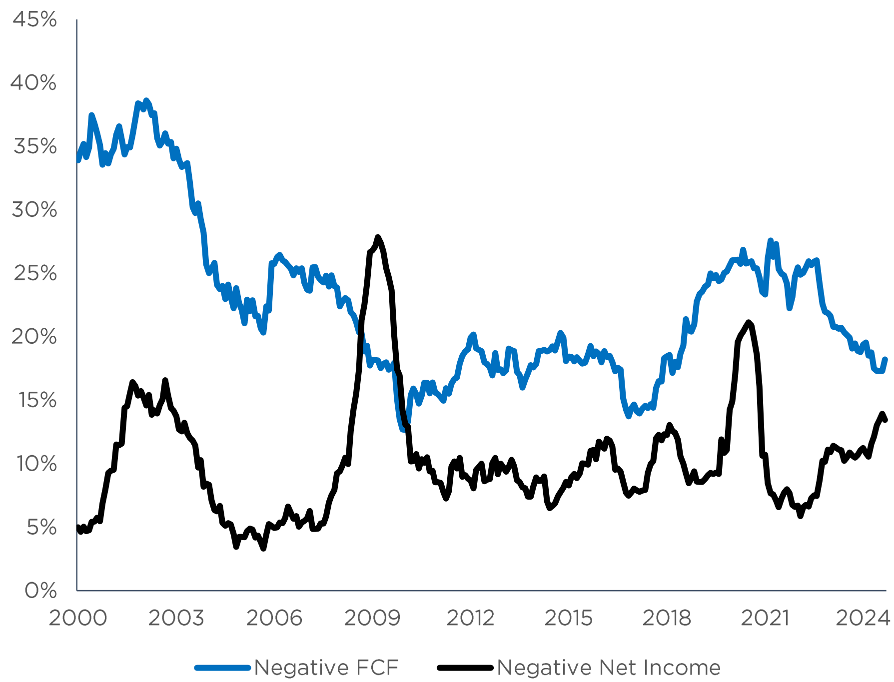


Source: Trivariate Research

MAKING MONEY OR VALUATION DOESN'T SEEM TO MATTER

<u>To stress how important buybacks have become in corporate culture, 17% of all companies that implement a buyback have negative free cash flow yield and 13% of all companies with negative net income engage in concurrent repurchases (left).</u> Valuation also doesn't appear to be a reason management teams buy back stock – as just as many buy back a lot of stock when it is expensive vs. its own history as when it is cheap vs. its own history (right). Looking at companies in the highest quintile of net buybacks, slightly more are in the most expensive quintile vs. their own history on price-to-forward earnings, than in the cheapest quintile vs. their history.

% of Companies That Have Negative FCF and Net Income
Only Companies With a Buyback
Through End-February, 2025



Source: Trivariate Research

Long-Term Percentage in Each Quintile Group
Net Buyback & Price-to-Forward Earnings Quintiles
1999 to End-February, 2025

	Highest Quintile of Net Buybacks	Q2	Q3	Q4	Lowest Quintile of Net Buybacks	Total
Cheap PEF vs. Own History	4.0%	3.7%	3.6%	4.5%	4.0%	19.9%
Q2	4.7%	4.1%	3.5%	4.0%	3.7%	20.0%
Q3	4.7%	4.3%	3.4%	3.9%	3.7%	20.0%
Q4	4.5%	4.5%	3.4%	3.8%	3.8%	20.0%
Expensive PEF vs. Own History	4.2%	4.5%	3.5%	3.8%	4.1%	20.1%
Total	22.0%	21.2%	17.3%	20.1%	19.4%	100.0%

Source: Trivariate Research

VALUATION SHOULD BE A PRIMARY CONSIDERATION FOR BUYBACKS

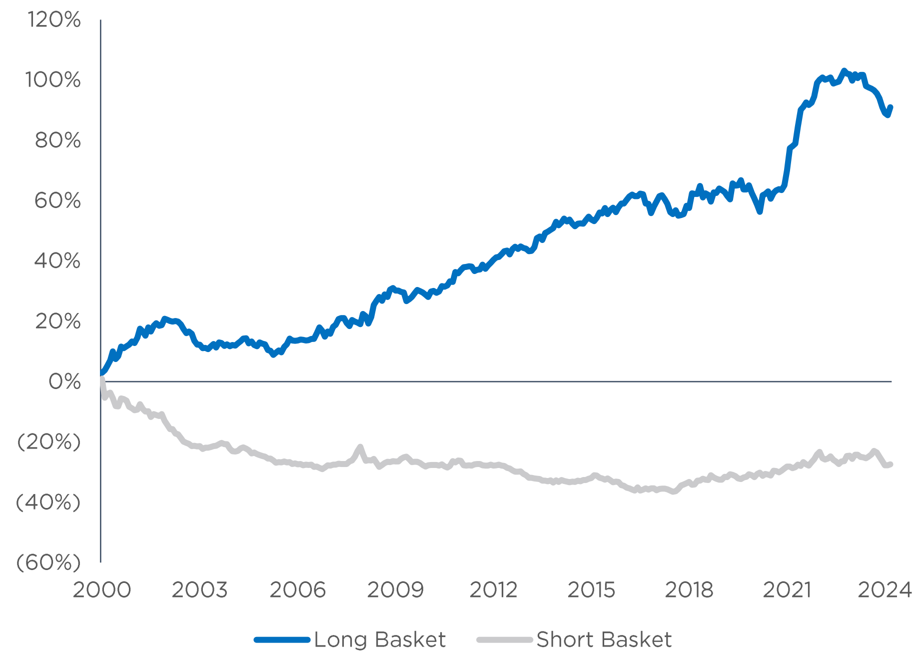
The performance of large buybacks is clearly subsequently better when the stock is cheap when there's a large net buyback than when the stock is expensive vs. its own history (left). Stocks that are cheap with large buybacks beat their industry average by 1.3%-4.8% over the next year, while those doing high buybacks that are expensive lag. Over time, buying back stock when it is cheap results in 120% relative performance vs. buying back stock when it is expensive (right).

Median Industry Group Relative 1m Forward Performance by Net Buyback & Price-to-Forward Earnings Quintiles 1999 to End-February, 2024

	Highest Quintile of Net Buybacks	Q2	Q3	Q4	Lowest Quintile of Net Buybacks
Cheap PEF vs. Own History	2.9%	4.8%	4.7%	2.4%	0.7%
Q2	1.3%	2.2%	0.6%	0.2%	(0.8%)
Q3	1.1%	(0.3%)	0.4%	(0.7%)	(2.4%)
Q4	(1.3%)	0.4%	(0.7%)	(1.5%)	(1.7%)
Expensive PEF vs. Own History	(0.8%)	(3.1%)	(0.9%)	(1.7%)	(1.5%)

Source: Trivariate Research

Cumulative Industry Group Relative-Return Top vs. Bottom 2 Quintiles of Price-to-Forward Earnings vs. History Through End-February, 2025



Source: Trivariate Research

BUY AND SELL IDEAS BASED ON VALUATION AND BUYBACKS

Stocks in the top two quintiles of net buybacks that are the cheap vs. their own history and cheaper than at least one-half of the overall market are shown on the left, and include UNH, QCOM, CMCSA, and ELV, among others. Stocks that are expensive vs. their own history, and more expensive than half the stocks in the market, that are still doing material buybacks are shown on the right, and include SHW, JCI, NXPI, and PSX.

Long Companies in Cheapest 2 Quintiles of Price-to-Forward Earnings vs. History, Top 40% on Buyback Yield As of End-February, 2025

Ticker	Company	Sector	Market Cap. (US $Bn.)
UNH	UnitedHealth Group Incorporated	Health Care	434.45
QCOM	QUALCOMM Incorporated	Information Technology	173.73
CMCSA	Comcast Corporation	Communication Services	135.66
ELV	Elevance Health, Inc.	Health Care	90.23
EOG	EOG Resources, Inc.	Energy	70.32
BDX	Becton, Dickinson and Company	Health Care	64.76
NEM	Newmont Corporation	Materials	48.27
CTSH	Cognizant Technology Solutions Corporation	Information Technology	41.22
EA	Electronic Arts Inc.	Communication Services	33.65
GIS	General Mills, Inc.	Consumer Staples	33.47
IQV	IQVIA Holdings Inc.	Health Care	33.29

Short Companies in Most Expensive 2 Quintiles of Price-to-Forward Earnings vs. History, Top 40% on Buyback Yield As of End-February, 2025

Ticker	Company	Sector	Market Cap. (US $Bn.)
SHW	The Sherwin-Williams Company	Materials	90.54
JCI	Johnson Controls International	Industrials	56.55
NXPI	NXP Semiconductors N.V.	Information Technology	54.68
PSX	Phillips 66	Energy	52.87
NUE	Nucor Corporation	Materials	31.69
TSCO	Tractor Supply Company	Consumer Discretionary	29.42
CDW	CDW Corporation	Information Technology	23.61
LUV	Southwest Airlines Co.	Industrials	18.41
DPZ	Domino's Pizza, Inc.	Consumer Discretionary	16.80
USFD	US Foods Holding Corp.	Consumer Staples	16.51
SFM	Sprouts Farmers Market, Inc.	Consumer Staples	14.63

Source: Trivariate Research

BUYBACKS WORK BETTER AFTER THE MARKET IS DOWN

We analyzed the performance of buybacks as a signal for the one-month period following when the S&P500 is up, and down. Ideally companies buy back their stock "low" and "sell high." By this we mean, they take advantage of market conditions to buy their stock well. <u>Buyback yield is FAR more effective in months following when the market was down and adds basically NO value in months following when the market was up.</u> Given the market is down this month, companies doing buybacks this month will likely outperform in April.

Performance Statistics of Buyback Signals, Q1 vs. Q5 Spread
By Prior Month S&P500 Return (Up vs. Down)
Top 2000 US Equities, Rebalanced Monthly
1999 to End-February, 2025

	Annualized Mean Return		Sharpe Ratio		Hit Rate	
Signal	SPX Positive	SPX Negative	SPX Positive	SPX Negative	SPX Positive	SPX Negative
Net Buyback Yield	0.2%	8.8%	0.03	0.88	44%	61%
1-Month % Change in Shares Outstanding	0.0%	5.5%	0.00	0.68	48%	56%
3-Month % Change in Shares Outstanding	0.2%	5.2%	0.03	0.61	48%	57%
12-Month % Change in Shares Outstanding	0.5%	7.7%	0.07	0.87	48%	58%

Source: Trivariate Research

YTD ANNOUNCED BUYBACKS

While these companies are not necessarily cheap or buying their stock well, they have made incremental buyback announcements in the last few weeks, meaning investors should be careful shorting these stocks.

Share Repurchase Programs Announced in 2025, Companies >$50 Bn. Market Cap.
As of March 17th, 2025

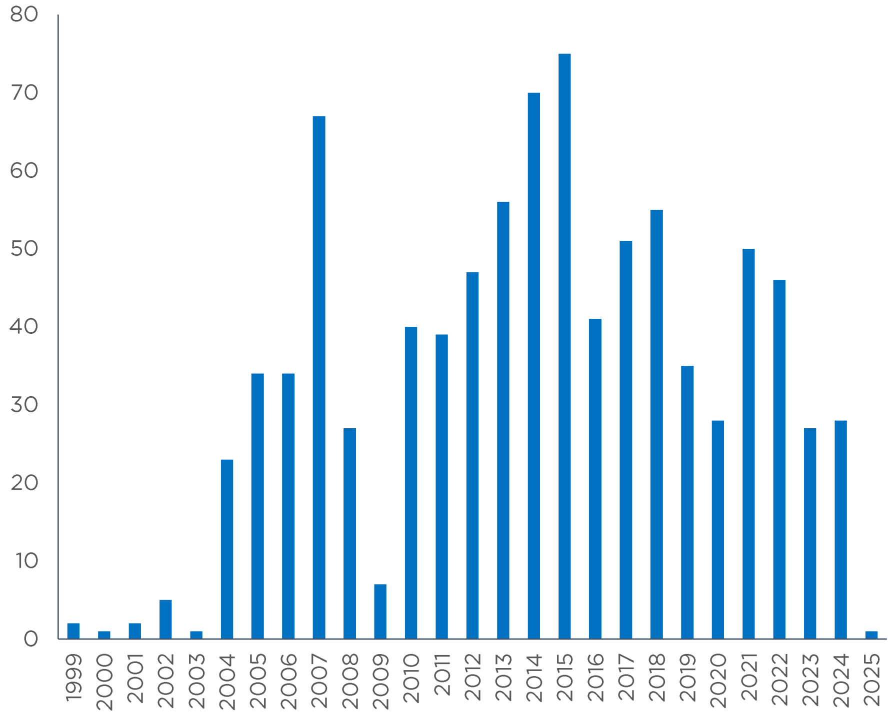
Ticker	Company	Sector	Market Cap. (US $Bn.)	Transaction Size (US $Bn.)	Announcement Date
AMAT	Applied Materials, Inc.	Information Technology	128.42	10.00	3/10/2025
TJX	The TJX Companies, Inc.	Consumer Discretionary	140.25	2.50	2/26/2025
ALL	The Allstate Corporation	Financials	52.78	1.50	2/26/2025
O	Realty Income Corporation	Real Estate	50.84	2.00	2/24/2025
BKNG	Booking Holdings Inc.	Consumer Discretionary	164.60	20.00	2/20/2025
RCL	Royal Caribbean Cruises Ltd.	Consumer Discretionary	66.23	1.00	2/12/2025
DASH	DoorDash, Inc.	Consumer Discretionary	83.36	5.00	2/11/2025
MCD	McDonald's Corporation	Consumer Discretionary	220.29	15.00	2/10/2025
MMM	3M Company	Industrials	84.21	7.50	2/4/2025
REGN	Regeneron Pharmaceuticals, Inc.	Health Care	74.78	3.00	2/4/2025
PYPL	PayPal Holdings, Inc.	Financials	70.29	15.00	2/4/2025
CMG	Chipotle Mexican Grill, Inc.	Consumer Discretionary	73.15	0.30	2/4/2025
MO	Altria Group, Inc.	Consumer Staples	94.42	1.00	1/30/2025
MRK	Merck & Co., Inc.	Health Care	233.03	10.00	1/28/2025
HCA	HCA Healthcare, Inc.	Health Care	76.07	10.00	1/24/2025
C	Citigroup Inc.	Financials	150.66	20.00	1/15/2025

Source: Trivariate Research

WE'VE SEEN RELATIVELY FEW ASRS THE PAST TWO YEARS

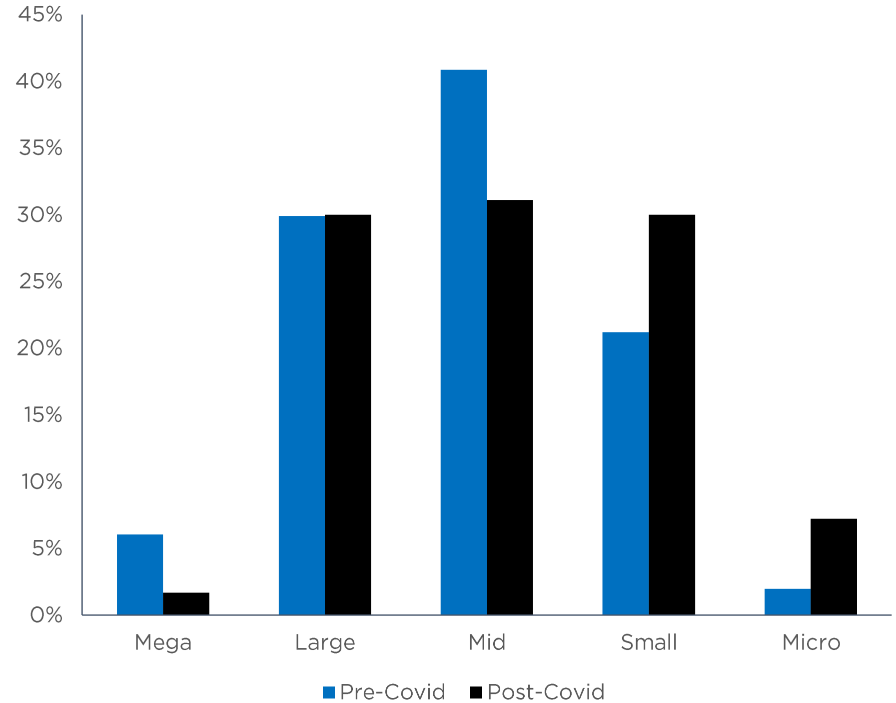
We have written in the past about accelerated share repurchases (ASRs) and argued they can be more effective than buybacks. On the left, we show there have been relatively few ASRs per year over time. Nearly 70 companies participated in ASRs in 2007 and 2015, both after large market rallies. Despite there being relatively few ASR programs over the last two years, we have heard several management teams are considering it. Historically, about 40% of all ASRs were performed by mid-cap companies, though today ASRs are relatively evenly distributed across large-, mid-, and small-cap stocks (right).

Number of ASRs by Announced Year
Through End-February, 2025



Source: Trivariate Research

Distribution of ASRs by Market Cap. Bucket
Through End-February, 2025

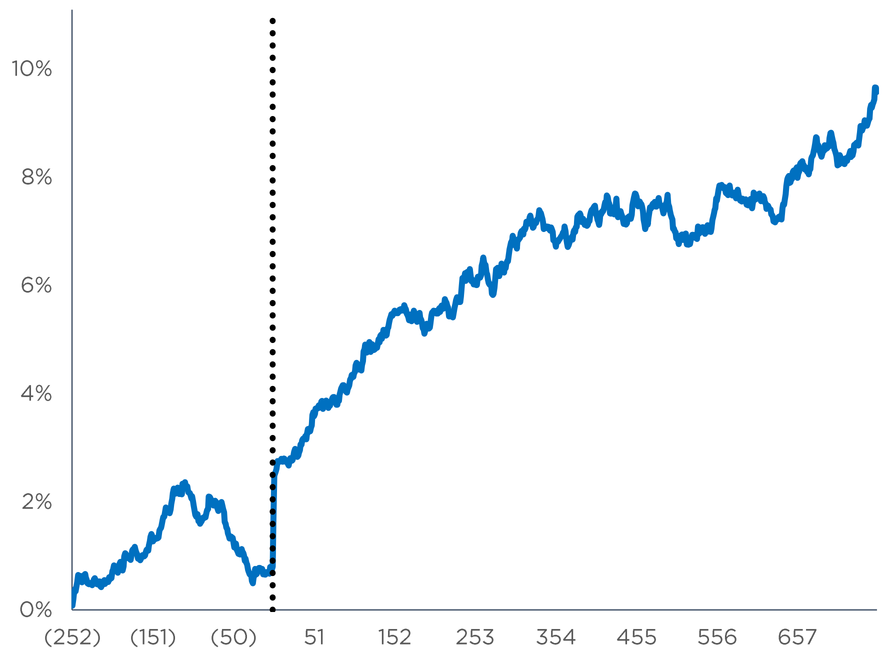


Source: Trivariate Research

SINCE COVID THE AVG. ASR HAS RESULTED IN 17% OUTPERFORMANCE

Companies engaging in ASRs often act poorly (about 2% on average) vs. their industry average prior to the ASR announcement then fully catch up on the announcement. Over the subsequent two years, the average company performing an ASR has beaten its industry group returns by 10% (left). Performance was not strong from 1999-2010 (right), as there was more of a perception that ASRs were tied to the variable compensation of the C-suite. **Since COVID however, companies performing ASRs have strongly outperformed their industry groups, by 17% on average after the first year.**

Accelerated Share Repurchase Program
Cumulative of Average Industry Group Relative Returns
Market Days 1yr Before and 3yrs After Announcement
1999 to End-February, 2025



Source: Trivariate Research

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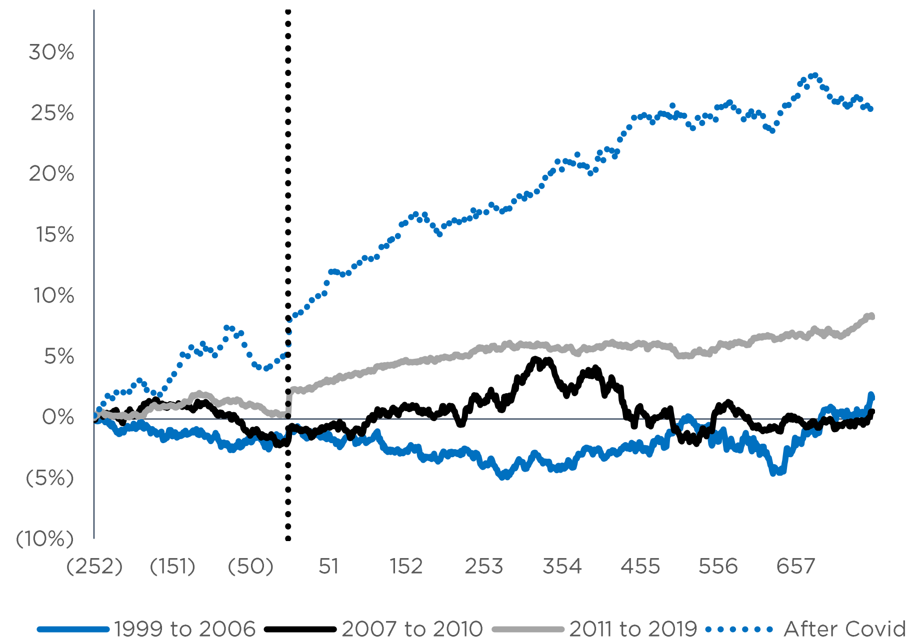
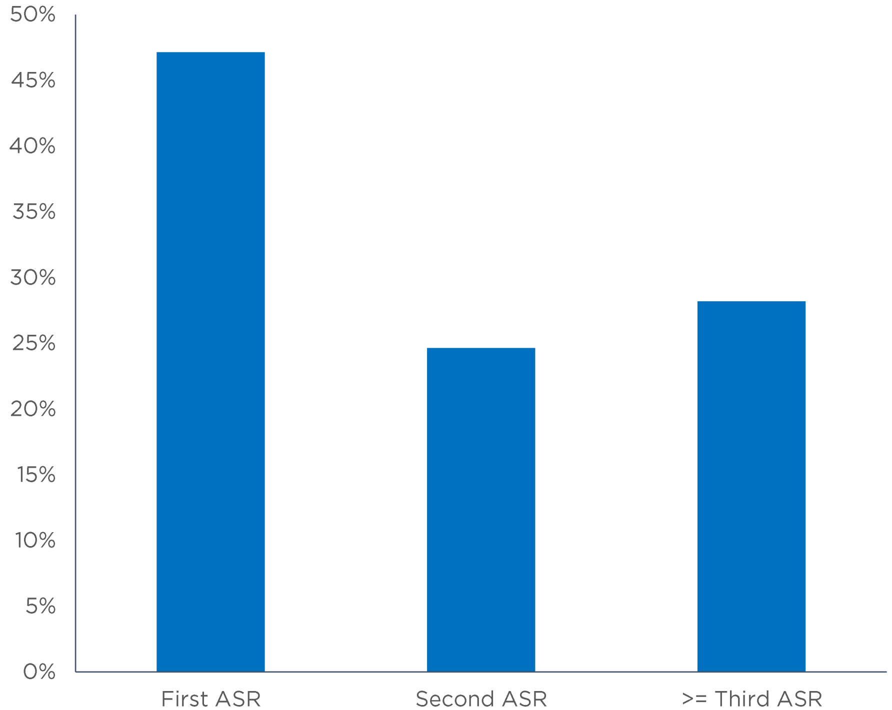


Source: Trivariate Research

THE SECOND ASR IS BETTER THAN THE FIRST

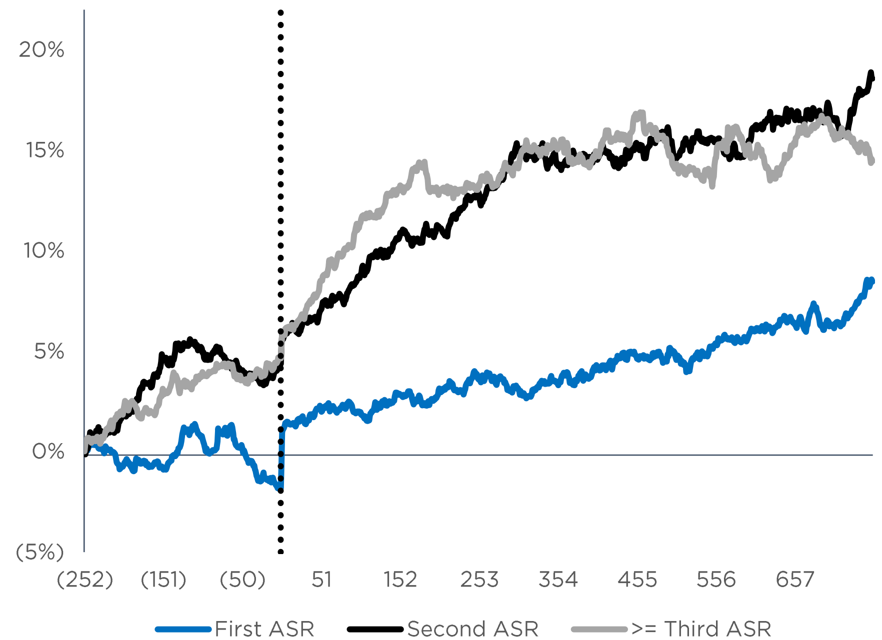
About half the ASRs over the last 25 years were a ‘first’ ASR for the company, and the rest were companies who were executing a second or more ASR (left). The performance of the second and third or more ASR was on average better than the first (right). **Companies who have previously executed a successful ASR and believe their stock is cheap should consider a new ASR in 2025.**

Distribution of ASRs by Company ASR Number
Through End-February, 2025



Source: Trivariate Research

Number of Company’s ASR
Cumulative of Average Industry Group Relative Returns
Market Days 1yr Before and 3yrs After Announcement
1999 to End-February, 2025



Source: Trivariate Research

CANDIDATES TO ANNOUNCE AN ADDITIONAL ASR PROGRAM

Below we show companies which are candidates to announce another accelerated share repurchase program. These include companies with a 1-year industry relative return following the previous ASR announcement of 5% or greater, net debt-to-market cap. below 30%, and days since the last announcement is between the 25th and 75th percentiles.

Quantitatively Derived Candidates to Announce Another Accelerated Share Repurchase Program
As of End-February, 2025

Ticker	Company Name	Sector	Last ASR Announcement Date	Years Since Last Announcement	Last ASR 1 Year Industry Relative Return	Market Cap. (US $Bn.)
GWRE	Guidewire Software, Inc.	Information Technology	09/22/2022	2.4	24.6%	16.81
AZTA	Azenta, Inc.	Health Care	11/14/2022	2.3	29.5%	1.99
WEX	WEX Inc.	Financials	08/23/2022	2.5	7.5%	6.10
RTX	RTX Corporation	Industrials	10/24/2023	1.4	18.4%	177.16
SPB	Spectrum Brands Holdings, Inc.	Consumer Staples	06/20/2023	1.7	22.1%	2.04
CEG	Constellation Energy Corporation	Utilities	02/16/2023	2.0	68.0%	78.38
EQH	Equitable Holdings, Inc.	Financials	02/06/2024	1.1	23.7%	16.94
ATGE	Adtalem Global Education Inc.	Consumer Discretionary	03/15/2022	3.0	38.7%	3.81
CDNS	Cadence Design Systems, Inc.	Information Technology	06/21/2022	2.7	34.2%	68.66
KLAC	KLA Corporation	Information Technology	06/16/2022	2.7	13.0%	94.20
WING	Wingstop Inc.	Consumer Discretionary	08/17/2023	1.5	106.0%	6.73
EXE	Expand Energy Corporation	Energy	12/02/2021	3.2	9.1%	23.01
HAE	Haemonetics Corporation	Health Care	08/10/2022	2.6	43.7%	3.29
SNPS	Synopsys, Inc.	Information Technology	12/10/2021	3.2	39.6%	70.70
SLAB	Silicon Laboratories Inc.	Information Technology	05/19/2021	3.8	13.8%	4.55
BDX	Becton, Dickinson and Company	Health Care	11/04/2021	3.3	36.1%	64.76
FICO	Fair Isaac Corporation	Information Technology	03/15/2021	4.0	27.5%	46.06
CARR	Carrier Global Corporation	Industrials	02/09/2021	4.1	29.1%	55.99

Source: Trivariate Research

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