Goldman Sachs | Global Macro Research

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TOP of MIND

BUYBACK REALITIES

The surge in US corporate buybacks to all-time highs in 2018 has generated public debate about the effects of buybacks on workers, companies, and the economy. We speak with William Lazonick, prof. at the University of Massachusetts, about the concerns driving this debate, at the core of which is the notion that buybacks come at the expense of investment. But GS portfolio strategists see little evidence of this. Aswath Damodaran, prof. at the NYU Stern School of Business, argues that's because buybacks redirect—rather than reduce—investment, and trapping cash in firms that don't have a good use for it instead would harm their competitiveness. More broadly, Steven Davis, prof. at The Chicago Booth School of Business, explains that such an inefficient allocation of resources would shrink the size of the economic "pie" and likely reinforce the unequal distribution of it. As for market impacts, we assess the size of the corporate bid (meaningful) and if it looks to be fading (no). And we ask what would happen if it did (bad news for equity investors).

"Where did the $800 billion worth of cash used for buybacks in the US last year go? That money didn't just disappear; shareholders typically use their returns to invest elsewhere in the market. So it's not that companies are investing less; it's that different companies are investing.

- Aswath Damodaran

The argument that not meeting "hurdle rates" justifies engaging in buybacks rather than re-investing is nonsensical and rarely made by successful CEOs who understand the need, in the face of uncertainty, to invest in future products to remain in business.

- William Lazonick

Trapping resources in larger and older businesses not only inhibits the overall size of the pie... but also tends to reinforce the unequal distribution of the pie.

- Steven Davis"

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...AND MORE

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Macro news and views

We provide a brief snapshot on the most important economies for the global markets

US

Latest GS proprietary datapoints/major changes in views

- No major changes in views.

Datapoints/trends we're focused on

- Signs that US growth is picking up, especially given stabilization abroad and an improving impulse from financial conditions.
- The sharp rebound in non-farm payroll growth in March (+196k), which we think should quell fears of stalling jobs growth.
- Softer-than-expected core PCE inflation in January (1.79%) on a decline in financial services prices and longer-term drags from shelter and healthcare; we still expect 2%+ inflation in 2020.

Japan

Latest GS proprietary datapoints/major changes in views

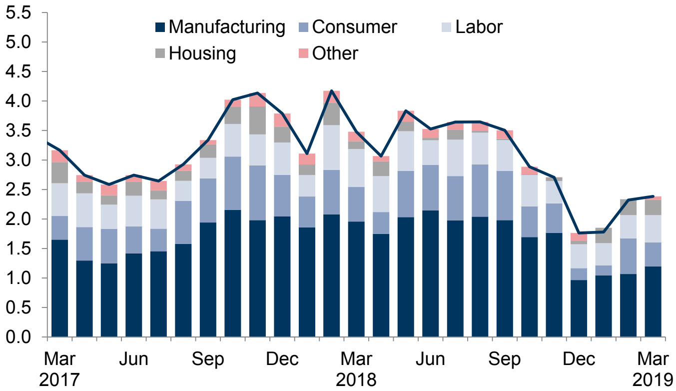
- No major changes in views.

Datapoints/trends we're focused on

- A less-rosy picture for Q1 GDP, given a likely decline in Q1 exports, still-sluggish retail sales, and a weak rebound in IP.
- A fall in model-implied recession risk given slightly improved business conditions, though caution remains warranted.
- Rising market expectations of a BOJ rate cut; we expect the bank to remain on hold barring a sharp yen appreciation.
- A meaningful drop in manufacturing DI in March.

Picking up

US Current Activity Indicator (CAI) by sector, % change (annual)

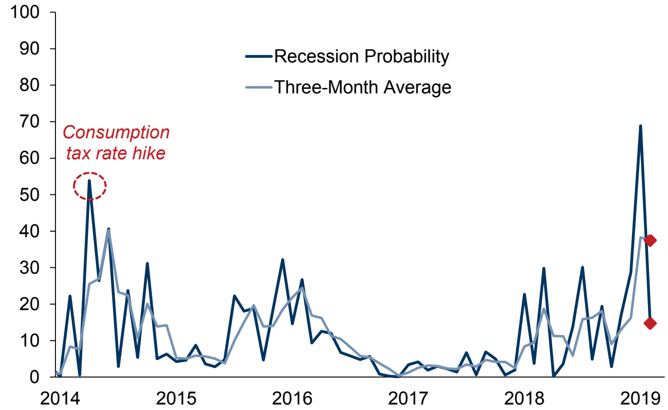


*First principal component of 37 key weekly and monthly US economic indicators.

Source: Goldman Sachs Global Investment Research.

Less risky (for now)

GS model-implied recession probability for Japan, %



Source: Goldman Sachs Global Investment Research.

Europe

Latest GS proprietary datapoints/major changes in views

- No major changes in views.

Datapoints/trends we're focused on

- Continued downside surprises in German manufacturing data despite signs of strength elsewhere in the Euro area.
- An ongoing fiscal boost, which should lift Euro area-wide growth by 0.4pp in 2019.
- Weaker-than-expected HICP core inflation, as market measures of inflation expectations fall close to historical lows. White House communication on tariffs on European cars.

Emerging Markets (EM)

Latest GS proprietary datapoints/major changes in views

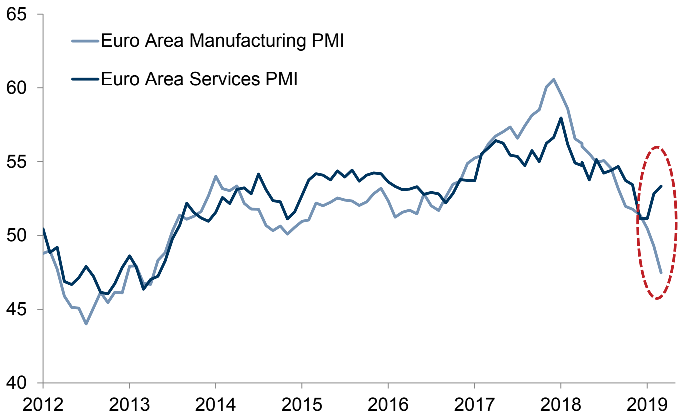
- We now expect the first rate cut in Turkey in 4Q2019 (vs. Q2 previously) on recent FX volatility; we also see downside risks to our below-consensus 2019 GDP growth forecast of -2.5%.

Datapoints/trends we're focused on

- Accelerating EM growth; our EM CAI rose to 3.4% in March from 3.1% in February (on a 3mma, equal-weighted basis).
- Signs of a consolidated Chinese growth recovery in coming trade/money and credit data, following on stronger-than-expected March PMIs that likely received a seasonal boost.

Different directions

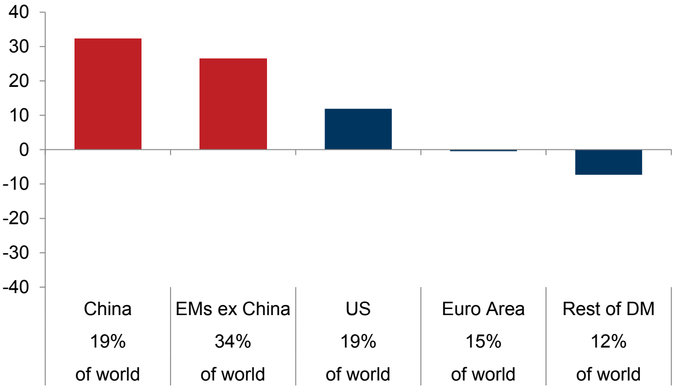
Euro area manufacturing vs. services PMI (50+ = expansion), index



Source: Goldman Sachs Global Investment Research.

China (and EM): giving the globe a lift

Contributions to change in global CAI (Dec. 2018-Mar. 2019), bp



Note: regional contributions are weighted by the respective PPP world share.

Source: Haver Analytics, Goldman Sachs Global Investment Research.

Buyback realities

S&P 500 share repurchases surged 50% to an all-time high of over $800 billion in 2018, generating public debate about the use of corporate cash in Washington, DC and beyond. How US companies use cash, the motivations of executives buying back stock, and the effects of these buybacks on workers, companies, the economy, and the market are Top of Mind.

To start, William Lazonick, professor at University of Massachusetts, lays out several concerns about buybacks driving the public debate. At their core is the notion that returning cash to shareholders comes at the expense of investment. This, in turn, harms innovation as well as American workers, who, Lazonick argues, should be getting a much larger share of company profits than shareholders. He also believes that paying executives with stock distorts their incentives, motivating them to boost share prices, no matter the cost to employees, their companies' future growth, or the economy writ large—especially as the US increasingly loses out to more innovative competitors. What's the fix, in his view? Ban buybacks, stop paying executives with stock, and give employees their due—all of which will only be truly meaningful in a world in which the "maximizing shareholder value" ideology no longer prevails.

But, when looking at the numbers, GS US portfolio strategists David Kostin and Cole Hunter find many of these arguments don't hold up in reality. In particular, they emphasize that even as companies return a large amount of cash to shareholders, there is sizable reinvestment; in fact, growth investment at S&P 500 companies has accounted for a larger share of cash spending than shareholder return every year since at least 1990, with the largest share repurchasers far outpacing market averages in growth of R&D and capex spending. They also find that executives who stand to gain the most from buybacks—those whose compensation depends directly on EPS—did not allocate a greater proportion of total cash spending to buybacks in 2018 than executives whose pay was not linked to EPS.

Aswath Damadoran, professor at New York University Stern School of Business, agrees that buybacks aren't coming at the expense of investment. Rather, he argues that large, mature companies returning cash to shareholders allows that cash to be put to more productive uses; so it's not that companies are investing less, it's that different companies—with better growth opportunities—are investing instead.

As for workers, Damodaran worries that constraining companies' ability to return cash to shareholders would lead US companies to make bad investments, further damaging their competitiveness and creating more "walking dead companies" similar to what we see in Europe. This, he fears, could backfire on workers, as firms are ultimately forced to pay less, hire less, or reduce their workforce altogether. In the end, he believes banning buybacks would ironically most likely benefit corporate executives (who would now have the luxury of sitting on cash) and bankers (who will reap the gains if executives instead pursue acquisitions), while hurting workers. (Note: see pgs. 16-17 for our take on why companies outside of the US pursue less buybacks, and whether that's set to change.)

Steven Davis, professor at The University of Chicago Booth School of Business, then dives into the potential implications of banning buybacks for business formation, job creation and the broader economy. He explains that such a ban will likely lead to an inefficient allocation of resources, which will ultimately shrink the overall size of the economic "pie". And since he finds that younger and smaller businesses are an important source of jobs in the economy—particularly for workers at the lower end of the earnings distribution—he's concerned that trapping cash in older, larger companies will reinforce an unequal distribution of the pie, aka: income inequality. In his view, the best bet to increase the size of the pie and even out its distribution is to foster a favorable environment for starting and growing businesses. That would entail simplifying the tax code, reducing labor market restrictions and regulations, and revamping local and federal regulations in other areas that create a complex and costly business environment today.

But beyond these firm-level, economic and social implications of buybacks—and the prospect of banning them—what about the market impacts? Neil Kearns, head of the GS US corporate trading desk, assesses the size of the corporate bid (meaningful), what drives fluctuations in it (primarily corporate earnings, but also market swings), and if it looks to be fading (no). GS US equity strategist Arjun Menon then asks the most important question for equity investors eyeing recent developments: what would the equity market look like without this corporate bid? His (concerning) answer: lower EPS growth, multiples, and index levels, and higher market volatility.

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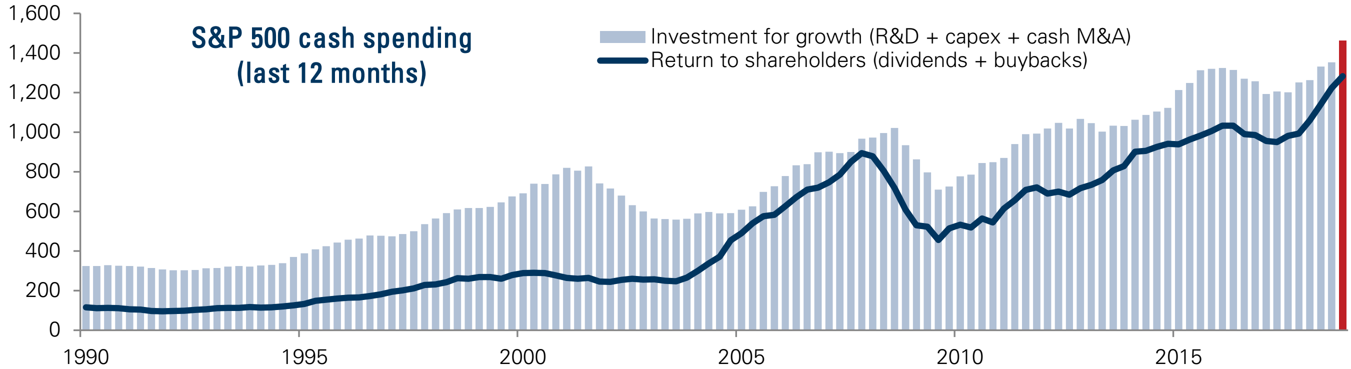

Source: Compustat, Goldman Sachs Global Investment Research.

Debunking buyback myths

David Kostin and Cole Hunter address myths coloring the debate on stock buybacks today

S&P 500 share repurchases rocketed 50% to an all-time high of $811 billion during 2018. As a result, the impact of corporate share repurchases—as well as the motivations of managers who buy back stock—have become popular topics of public debate. However, a number of misperceptions surrounding corporate cash spending priorities and the economics of share repurchases have colored the recent dialogue. We debunk these myths.

Myth #1: Buybacks dominate corporate spending at the expense of growth investment.

Reality: Growth investment (capex, R&D, and cash M&A) has accounted for a larger share of cash spending than shareholder return (buybacks and dividends) every year since at least 1990. Capital expenditures and R&D have also been remarkably stable. Indeed, for the past 30 years, corporate cash spending on capex and research and development initiatives (R&D) has consistently equaled roughly 8% of sales. During 2018, S&P 500 firms increased capex and R&D spending by 13% to $1.0 trillion, equal to 9% of annual sales (a 98th percentile reading since 1990). In 2019, we forecast capex and R&D spending will rise by 10% to $1.2 trillion and account for 38% of the $3.0 trillion of aggregate cash spent by S&P 500 companies, vs. 13% spent on cash M&A, and 49% returned to shareholders.

We find little evidence that share repurchases are crowding out growth investment among the index's largest repurchasers. Just 10 S&P 500 stocks account for nearly two-thirds of the $271 billion year/year increase in share repurchases in 2018. These 10 stocks increased spending on capex and R&D by 26% during 2018—nearly 2x the pace of growth for the aggregate index. Capex and R&D as a share of sales equaled 13% for this group of stocks last year, a full 4 pp higher than the index as a whole (see p. 15 for more).

Myth #2: Cash payouts to shareholders are exceptionally high today.

Reality: S&P 500 firms have been returning cash to shareholders for at least 140 years and current payouts are not extreme by historical standards. The S&P 500 cash return payout ratio (dividends + net buybacks / net income) has averaged 73% of earnings since 1880. Between 1880 and 1980, most distributions were in the form of dividends. However, since the early 1980s companies returned cash to shareholders via both dividends and share repurchases. In 2018, the combined payout ratio equaled 88% of earnings, ranking in the 76th historical percentile since 1880.

One reason that companies have increased buybacks relative to dividends is that buybacks offer management teams greater flexibility to increase and decrease the amount of cash returned to shareholders. Broadly speaking, buyback growth typically follows the trajectory of earnings growth. Therefore, large swings in profits mean that buyback growth also varies widely. For example, during the current economic expansion, buybacks plunged by 12% in 2012, rose by 13% annually during the next three years, dropped by 7% in 2016, and fell by 2% in 2017, before rebounding last year. In contrast, dividend growth has been far more stable, rising steadily by an average of 7% annually during the past decade. Looking forward, we expect S&P 500 aggregate buyback spending to rise by 16% to $940 billion in 2019 and dividends to rise by 11% to $525 billion.

Myth #3: Companies used extra cash from 2017 tax reform solely for stock buybacks.

Reality: Buybacks have picked up since the passage of tax reform, but so too has growth investment. For context, one consequence of the 2017 Tax Cuts and Jobs Act was that earnings permanently reinvested overseas were subject to tax regardless of whether the profits were actually repatriated. Accordingly, after paying the tax, firms had an incentive to return cash to the US rather than leave earnings trapped abroad. It's true that the substantial growth in share repurchases during 2018 was highly concentrated among firms with the highest earnings trapped overseas; 7 of the 10 stocks accounting for the largest share of the year-over-year increase in S&P 500 share repurchases had significant earnings trapped overseas before the deemed repatriation.

But growth investment has also accelerated sharply since the passage of tax reform. A company must invest at the same rate as depreciation in order to maintain a consistent asset base, while capex in excess of depreciation represents investment for incremental growth. The capex-to-depreciation ratio (sometimes referred to as the "reinvestment ratio") had been persistently declining since the summer of 2014 and reached the lowest level this cycle in the summer of 2017. However, following tax reform, the S&P 500 reinvestment ratio rebounded sharply to 130% in 2018.

Myth #4: Management teams only repurchase stock in an attempt to inflate EPS and meet incentive compensation targets.

Reality: Executives whose compensation depends on EPS did not allocate a greater proportion of total cash spending to buybacks in 2018 than companies where management pay was not linked to EPS. The 247 companies in the S&P 500 with incentive compensation programs linked to earnings per share—a metric that would benefit from accretive share buybacks—actually spent a smaller share (28%) of their total cash outlays on repurchasing stock compared with the 253 firms without a performance metric linked to EPS (31%). Moreover, the 49% of S&P 500 firms with EPS-linked compensation accounted for just 45% of total 2018 buybacks ($362 billion). We also found no relationship between how management teams with compensation incentives tied to total shareholder return (TSR) spent cash relative to those firms with no shareholder return incentive.

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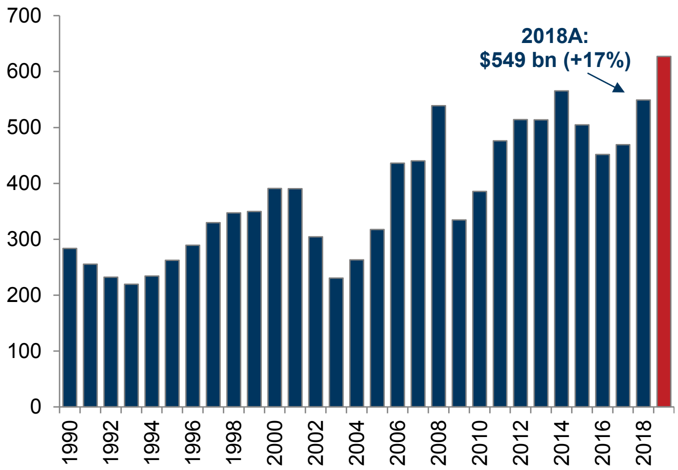
Myth busting buybacks

Growth investment has increased sharply in recent years

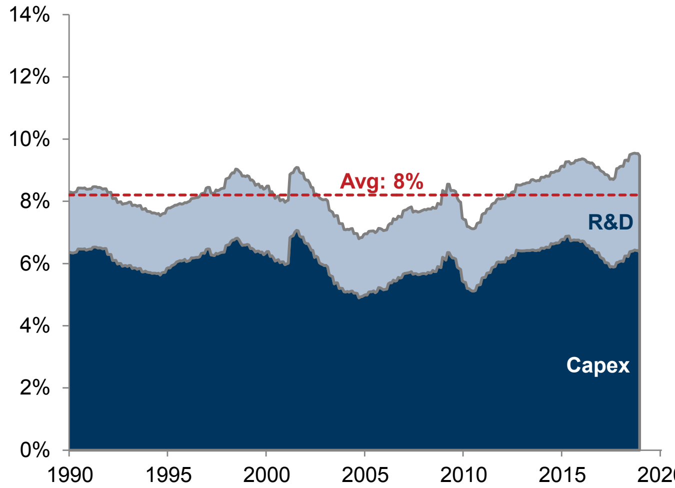
Real S&P 500 growth investment, 2018 $ bn*



*Growth investment is R&D + capex - depreciation; deflated using CPI inflation.
Source: Compustat, Goldman Sachs Global Investment Research.

R&D/capex are close to their highest levels ever as a % of sales

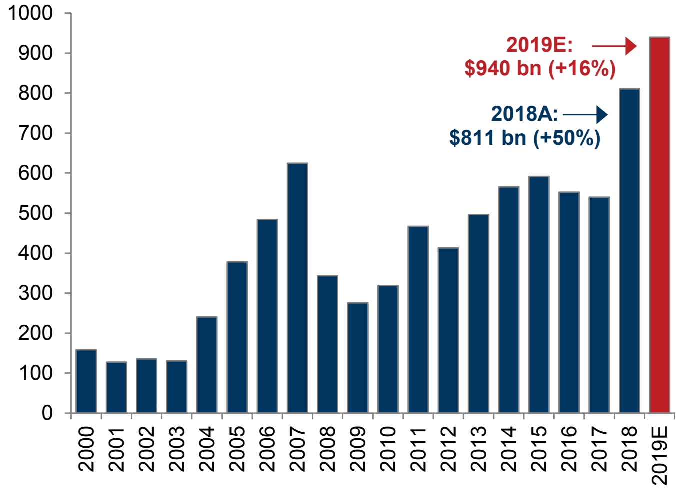
S&P 500 investment, % of sales



Source: Compustat, Goldman Sachs Global Investment Research.

Buybacks picked up after tax reform in 2017…

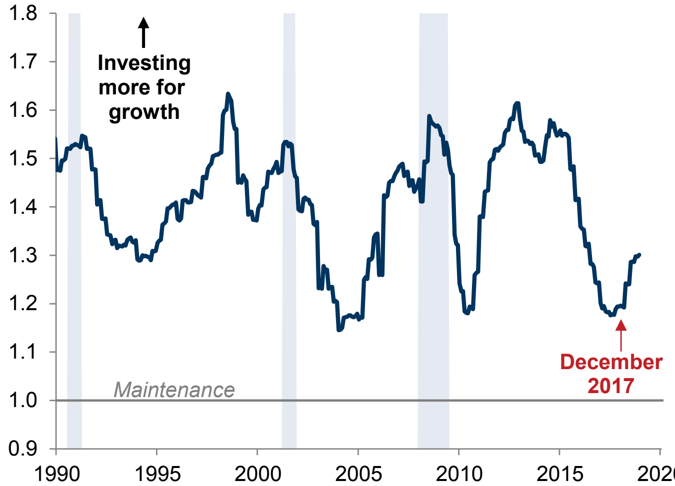
S&P 500 share repurchases, $bn



Source: Compustat, Goldman Sachs Global Investment Research.

…but so too has the pace of growth investment

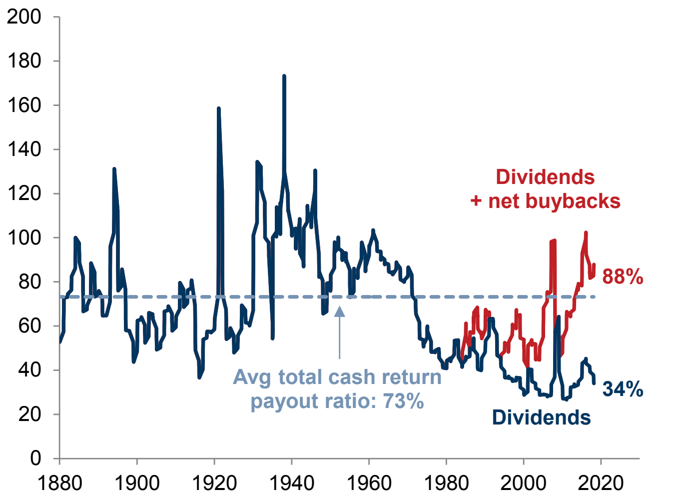
S&P 500 capex/depreciation ratio



Source: Compustat, Goldman Sachs Global Investment Research.

Corporate cash payouts are similar to historical averages

S&P 500 cash return payout ratios, % of net income



Source: Robert Shiller, Compustat, Goldman Sachs Global Investment Research.

EPS-linked compensation doesn't appear to drive buybacks

2018 spending among S&P 500 firms with/without EPS-linked compensation packages, $ bn, % of cash spending (below)

EPS-linked compensation

			2018 aggregate spending ($bn)			
Incentive comp. metrics	# of firms	% of firms	Invest for growth	Return to investors	Return to investors: Buybacks	Return to investors: Dividends
EPS-linked	247	49 %	$663	$635	$362	$274
Not linked to EPS	253	51	801	648	449	199
All S&P 500	**500**	**100 %**	**$1,464**	**$1,284**	**$811**	**$473**

			% of total cash spending			
Incentive comp. metrics	# of firms	% of firms	Invest for growth	Return to investors	Return to investors: Buybacks	Return to investors: Dividends
EPS-linked	247	49 %	51 %	49 %	**28 %**	21 %
Not linked to EPS	253	51	55	45	**31**	14
All S&P 500	**500**	**100 %**	**53 %**	**47 %**	**30 %**	**17 %**

Source: Compustat, FactSet, Goldman Sachs Global Investment Research.

Interview with Aswath Damodaran

Aswath Damodaran is a professor of finance at New York University Stern School of Business and holds the Kerschner Family Chair in Finance Education. He has authored several books on equity valuation, corporate finance and portfolio management. Below, he argues that buybacks do not come at the expense of investment, but rather help redirect cash towards better investments.

The views stated herein are those of the interviewee and do not necessarily reflect those of Goldman Sachs.

Allison Nathan: How should companies decide when and how to deliver cash back to shareholders?

Aswath Damodaran: It's one of the simplest of all corporate finance decisions, determined by whether you can earn a return for your investment that is greater than what people can make elsewhere, often referred to as a "hurdle rate." For example, if people can make 8% elsewhere, you need to expect to make more than 8% from your reinvestment; if you cannot find investment that generates a return greater than that hurdle rate, then it is better to give the money back to your investors.

Allison Nathan: Why have buybacks become such a popular means of returning cash in recent decades?

Aswath Damodaran: In fact, I'm surprised that buybacks haven't grown faster and this trend didn't start earlier. If you look at history, part of the reason companies started paying dividends was because bonds predated stocks. So when stocks were first listed, the only way you could get investors to buy them was to dress them up like bonds with a fixed dividend basically mimicking a coupon.

But dividends have never made sense as an equity cash flow. The essence of buying stock in a company is laying claim to whatever receivable cash flow is not otherwise being used. That means it should be different every year. But dividends historically are sticky. Buybacks, on the other hand, can be thought of as flexible dividends that allow companies to return more cash in years when they have more cash, and less or none at all when they don't.

Thirty years ago, I could have given you a list of hundreds of companies that had solid, predictable earnings and therefore could afford to pay a fixed dividend. But given that fewer and fewer companies can count on earnings in this period of globalization and increased competition, it's no wonder that companies have increasingly shifted to flexible dividends in the form of buybacks. This is true even for successful companies like Apple, which has substantial cash flow today but realizes—unlike the great companies of the last century—that it can't count on having that cash flow for the next fifty years, especially in businesses where numerous companies have quickly gone from stars to dogs.

Allison Nathan: Shouldn't we be concerned that the trend of using cash for buybacks is reducing investment?

Aswath Damodaran: This hits on one of the great myths about buybacks: that they come at the expense of investment. Are companies investing less? The companies that are buying back stock are investing less. But the key question is where did the $800 billion worth of cash used for buybacks in the US last year go? That money didn't just disappear; shareholders typically use their returns to invest elsewhere in the market. So it's not that companies are investing less; it's that *different* companies are investing. And so the question is not whether you want companies to invest or to buy back shares, but rather which companies you want investing: the aging companies of the last century, or the newer companies that have better investment opportunities today? Choosing the latter should redirect cash from bad businesses to good businesses, boosting the economy in the long run.

Allison Nathan: But are these cash-rich companies engaging in buybacks just not looking hard enough for opportunities to innovate?

Aswath Damodaran: You can look as hard as you want. You can make a reincarnated Steve Jobs the next CEO. But you can't change many of these businesses. The fact of the matter is that many of the companies engaging in the largest buybacks are in the late stages of their lifecycles, and you can't reverse that aging. Are some companies buying back stock that shouldn't be? Absolutely, because the forces of inertia and me-tooism are strong in companies. Some companies buy back stock just because they have done so every year, or because other companies in the sector buy back stock. If a company buys back stock for the wrong reasons and good investments are turned down, that is troubling. But addressing that problem requires a scalpel not a bludgeon. If you ban buybacks across the board to protect yourself from the few companies that are doing stupid things, you're going to end up with a lot of bad investments at some companies, or none at all, if these companies just sit on the cash instead.

Allison Nathan: But even if reinvestment opportunities are limited in terms of their products or businesses, can't these companies be investing more in their employees through higher wages, better benefits, etc.?

Aswath Damodaran: That's a fair question. But many of these companies already can't earn a decent rate of return because they are struggling to compete with high cost structures and legacy costs. And if you pay your employees more, competitiveness will likely suffer further. This could create a vicious cycle, in which wages rise initially, but ultimately the company shrinks even faster and hires fewer people, or reduces the size of its workforce altogether. You might end up with some happier, well-paid employees who remain in the company, but a smaller number of them. Look at Europe, which has some very well-paid older factory employees but one of the higher unemployment rates in the world, likely in part because maintaining higher wages for existing employees has undercut the ability to hire new employees. This might be a reasonable trade off. But you can't expect to legislate your way to a low unemployment rate, lots of new jobs and higher wages for all your existing employees—that's just not realistic.

Allison Nathan: But, more broadly, shouldn't employees be receiving a greater share of the gains of profitable companies, and how do you achieve that then?

Aswath Damodaran: I agree that labor needs to get a bigger slice of the pie. Over the last 30 years capital has acquired power at the expense of labor largely because capital is more mobile, which has been particularly valuable in the current age of globalization. But economies move in cycles, and there have been—and likely will be again in the future—periods when labor has the upper hand. I know that's small consolation for the factory worker facing stagnant wages today. But if you try to intrude in the process and fix it, even well-intentioned legislation is likely to create a new set of problems. So I am not sure there is an easy way to give labor a larger slice of the pie by just forcing the pie to be cut in a different way right now.

Allison Nathan: It's hard to argue with the fact that company executives are often times largely paid in stock. Could this be distorting incentives for buybacks?

Aswath Damodaran: When the method of compensation favored options in particular this was a key issue; you can make an argument that dividends went out of fashion in the 1990s in part because if you paid a dividend, the stock price typically dropped, which was not a good thing if you were getting paid in options. But these days executives are increasingly paid with restricted stock, which means that they have an equity stake, sometimes with long vesting periods and/or restrictions on selling stock once they receive it.

Of course, if buybacks automatically increase the stock price, then executives that are paid in stock benefit. But there is no direct link between buying back shares and increasing the stock price. Buybacks in and of themselves do not create value, they just return cash. And even if there is an initial bump in the stock price on the announcement of a buyback, if buybacks are coming at the expense of good projects and hurting the company in the process, executives are ultimately hurt as restricted stockholders. Executives want the stock price to rise just as much as any shareholder, and doing buybacks in and of itself doesn't achieve that; doing buybacks for the right reasons does—and all stock holders will share in those benefits.

Allison Nathan: What about hedge fund activists? Don't they pressure companies to pursue buybacks specifically to generate short-term gains that they can cash out on?

Aswath Damodaran: It's true that activists might pressure a company to return cash and then cash out quickly; realistically, they tend to be selfishly motivated by profit. But I think of activists as needed irritants in the system. You need people who will confront company management and demand that if they can't make good investments, they should return cash to shareholders. On the flip side, imagine a world without activists. Managers would have such incredible power over shareholders that they could do whatever they want with your money. This is when corporate governance truly breaks down, as you often see with family group companies or founder-controlled firms. So you might not like the methods that activists use or the consequences of their actions, but without them small and passive investors would be in trouble.

Allison Nathan: There's a market narrative that companies have been taking on debt to buy back stock. How concerning is this trend and does it raise systemic risk?

Aswath Damodaran: I look closely at financial data at the start of every year—computing every conceivable ratio for every publicly traded company—and I am just not seeing this; in my calculations, debt ratios of US companies have not changed significantly over the last 15 years. A mistake that's commonly made is to look at just S&P 500 companies. But these are the most mature companies that have an ability to borrow more, and tend to buy back the most stock for the reasons we've discussed. Separately, I've also found that the most debt-laden companies are actually generally not the ones buying back the most stock. Broadly speaking, there's a danger in looking at only subsets of data, or anecdotal data. Of the 7,300 publicly traded companies in the US, can I find companies that are highly levered and are borrowing money to buy back stocks that shouldn't be? Of course; I can find examples of companies doing all sorts of strange things. But extrapolating these anecdotes to a generalized rule is often very misleading.

Allison Nathan: So what would happen if buybacks were restricted? How do you think companies would respond?

Aswath Damodaran: Companies, especially older companies, would love it, because it would be the perfect excuse for them to sit on a pile of cash without having any pressure from shareholders or activists to return it to them. This is not a hypothetical. Take a look at the walking dead zombie companies in Europe to see exactly where we'll end up if buybacks are banned. In Europe, a myriad of factors tend to leave capital tied up in old, aging companies, leaving less capital for the younger, more exciting companies in new businesses. This is not where we want to be.

You know who else would love it? Investment bankers, because now that cash would be burning a hole in the pockets of corporations, providing a greater incentive for them to pursue acquisitions—the mother lode of all deal making. In short, groups that such a policy might have intended to discipline could end up as the main beneficiaries of it. Business history is full of unintended consequences of legislation, and I can almost promise you that will occur again if Congress bans buybacks.

But I can tell you what won't occur if buybacks are banned: the return of manufacturing jobs. We already learned that from the experience of tax reform in 2017; proponents argued that allowing companies to bring back their trapped cash would lead to a surge in manufacturing. We have not seen new factories built because the underlying economic fundamentals just don't support it. But I believe that tax reform was worth it, because that cash found its way into the market, and from there, into other companies in the economy.

Interview with William Lazonick

William Lazonick is emeritus professor of economics at the University of Massachusetts, president of the Academic-Industry Research Network, and an Open Society Fellow. He previously held professorial positions at Barnard College of Columbia University, INSEAD, and Harvard University. Below, he argues that stock buybacks divert cash away from investments in productive capabilities and innovative products.

The views stated herein are those of the interviewee and do not necessarily reflect those of Goldman Sachs.

Allison Nathan: Why have buybacks become such a popular tool for US companies?

William Lazonick: I attribute this trend in large part to a major and unfortunate transformation in the ideology of corporate governance that occurred from the mid-1980s, namely that companies should be run to maximize shareholder value. This ideology gained legitimacy in business schools around that time, but the shift was part of a larger evolution in US economics and politics. Challenges facing US corporations in part owing to the conglomeration movement of the 1960s led to a backlash beginning in the 1970s; the prevailing view became that it was better to bust up these companies, take the money out of them, and distribute it elsewhere. The fact that some of the strongest US industries began losing out to Japanese competition reinforced this view. So the idea was born that it was better to "downsize and distribute" than to "retain and reinvest."

On top of this, the election of Ronald Reagan on a platform of deregulation and free market economics paved the way for the November 1982 adoption by the Securities and Exchange Commission (SEC) of Rule 10b-18, which I call a "license to loot". The rule provides a safe harbor against charges of stock market manipulation for companies buying back their own shares as long as the stock repurchases remain within a certain range of the companies' previous average daily trading volume. This gives corporate executives permission to do large-scale buybacks. Indeed, legitimized by the increasingly popular "maximizing shareholder value" ideology, a surge in buybacks soon followed Rule 10b-18's adoption.

As this ideology evolved, companies were ever-more judged by their stock yields, and they began to compete to keep their stock prices up, in part through buybacks. They could also use buybacks to help reverse major downturns in the market, with, for example, IBM one of the first companies to buy back stock after the October 1987 crash. But contrary to what is often assumed, most buybacks occur when stock prices are high, which aligns with the notion that companies are competing in terms of stock price performance—and buybacks remain a favorite means of achieving this end.

Allison Nathan: Couldn't companies be buying back stock because they just don't have a better way to use the cash?

William Lazonick: Some economists make this argument because they believe that quantitative financial tools like calculating net present value can be used to evaluate investments in new technology and innovation. But the argument that not meeting "hurdle rates" justifies engaging in buybacks rather than re-investing is nonsensical and rarely made by successful CEOs who understand the need, in the face of uncertainty, to invest in future products to remain in business. That's because it's impossible to know what an innovative investment will yield; by that calculation, Apple would have never made the investment in the iPod, iPhone, and iPad.

The only question good CEOs grapple with is what productive capabilities to invest in, not whether or not to invest. They make investment decisions based on strategic vision and an understanding that key capabilities must be developed over time by investing and retaining people who can engage in organizational learning.

Allison Nathan: But aren't there at least some instances where the cash could be put to even better use by returning it to shareholders who can redirect it to more promising opportunities elsewhere in the economy?

William Lazonick: Not in my view. There is no shortage of financing in the economy, and particularly in venture capital, so there is no need to "redirect" cash. I'd argue that any shortage of finance in venture capital ended on July 23, 1979—the date that pension funds were given the greenlight to put up to 5% of their portfolio into risky assets without being liable for the misuse of resources. The only shortage is in investment in productive capabilities and innovative products, which implies that companies should be instead directing their cash towards organizational learning, including, but not limited to, R&D. So the argument that this money is needed for alternative uses doesn't fly.

Allison Nathan: So you basically see the rise in buybacks as a problem of corporate governance?

William Lazonick: Yes. Again, the key issue is that CEOs are often too focused on boosting the stock price through buybacks and other means given today's pervasive "maximizing shareholder value" ideology, which has been amplified by pressure from hedge fund activists looking to extract value from companies. And let's not forget that executives have substantial personal incentives for a high stock price since a large portion of their compensation comes—in one way or the other—in the form of stock. It's no coincidence that executives typically benefit from stock price bumps resulting from buybacks, realizing greater gains from the exercise of stock options and the vesting of stock awards. Executives who become so focused on the company's stock price may lose the strategic vision required for the companies they lead to innovate and remain competitive.

Allison Nathan: What have you found are the corporate consequences of this behavior?

William Lazonick: We have done in-depth firm-level research that shows that financialized companies ultimately lose out. Take Cisco Systems, which in 2001 was positioned to become the world leader in carrier-class communications infrastructure equipment as wireless was gaining traction. But they largely abandoned investment in some of the most promising technologies as the company did massive buybacks. Today, Cisco is still the biggest player in enterprise networking, but it is a non-entity in the more sophisticated service provider technologies. Instead, leaders in this area are Huawei and Ericsson—exceptionally innovative companies that have been insulated from stock market pressures; Huawei is employee-owned and not listed on a stock market, while Ericsson is controlled by dual class shares. We've found similar patterns in other industries like pharmaceuticals. The key point is that companies that start down the path of doing a lot of buybacks generally cease to be innovative. And companies that retain and reinvest are the ones that become industry leaders.

Allison Nathan: What about broader economic consequences?

William Lazonick: These dynamics have been a major source of income inequality, leading to very high incomes for company executives—not to mention hedge fund managers who time the buying and selling of shares around buybacks—at the same time that most American workers experience stagnating pay and unstable employment. It's not a matter of "it would be nice if we could pay employees more." Employees, in fact, generate the value in these companies. So when executives fail to reinvest in their companies and employees, value is being taken away from their workers.

Allison Nathan: It's argued that if companies pay workers more, they risk becoming less competitive, which could ultimately lead to shrinking profits and the need to lay off workers, etc. Is there any merit to this?

William Lazonick: The economists making these arguments have no idea how companies become productive. Many studies have shown that the companies that treat their workers well, compensate them for the value they create, and provide an environment that entices them to stay achieve greater productivity, which is what allows the companies to remain competitive. Remember, the purpose of a company is to produce a product that can be sold, not make a profit. But if companies do that well, profits follow. And who do those profits belong to? I strongly believe they belong to the employees who created them, and certainly not to shareholders who have in reality not invested in the company at all, but have just bought shares on the market to receive a yield through dividends or through capital gains as the company produces and innovates, thanks to the employees.

Allison Nathan: Why are dividends not as bad as buybacks in your view? Aren't they both just means of returning cash, but buybacks provide more flexibility to companies on when to do so?

William Lazonick: Neither buybacks nor dividends "return" cash to shareholders because the vast majority of public shareholders never invested in the company; they just purchased shares on the stock market. And, through stock price manipulation, buybacks benefit share sellers, including executives, not shareholders. It's reasonable for companies to pay dividends from profits that they can afford after reinvesting in the company. Dividends on common shares are not inflexible. Companies can adjust dividends at any time; they just don't like to cut them because Wall Street typically views such moves negatively. But dividends alone can be too high, leaving inadequate earnings for reinvestment in productive capabilities. We see this more often in Europe, where buybacks are less common but many companies issue high dividends that undercut reinvestment. In the end, dividends should be issued only after everything else is taken care of so that they don't undermine the future of the company.

Allison Nathan: So if European companies engage in less buybacks, which you see as killing innovation, why is European industry widely considered less innovative than American industry?

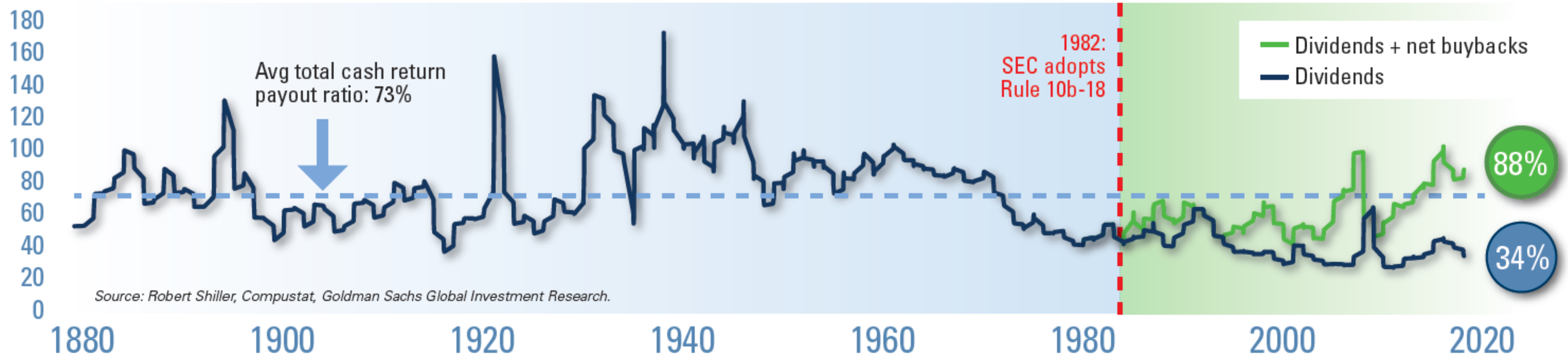
William Lazonick: I would generally agree that the US has been a much more propitious place to invest in innovation because of US government investment in computer technology, life sciences research, aeronautics and other technology fields as well as institutions that support entrepreneurship. What the United States has to worry about is the fact that, despite all of these advantages, the rest of the world—and particularly China—is catching up. And the US will eventually lose out if the current trends continue. It has already lost out in communications infrastructure to Chinese and European competitors; clean energy technology is another example of an industry where we've lost ground.

Allison Nathan: So what policies do you propose?

William Lazonick: First, rescind rule 10b-18 and make open market stock repurchases illegal. I also think there should be an end to stock-based pay because speculation in and manipulation of the stock market divorces stock-based remuneration from innovative performance. In general, we should reward executives over a long period of time for actual value creation, such as expanding competitive products. But for such changes to have real value we need a shift in the ideology of corporate governance that puts employees first and shareholders last in the rank-ordering of corporate constituencies. One way to begin to do this is to involve workers in the decision-making process, by including them on the board and establishing employee-populated works councils that provide input to management, as occurs in Germany today. And I think we need to find more ways to give people long careers, even in today's environment in which globalization has made employment stability more difficult. For example, Denmark's flexicurity system tracks people who have been laid off and ensures that they keep their skills up until they find another job for the next stage of their career.

These are admittedly big changes for US business. But even arriving at the point—as we have today—of having people ask about and try to understand the relation between corporate governance and innovative performance, I view as real and encouraging progress toward these desired outcomes.

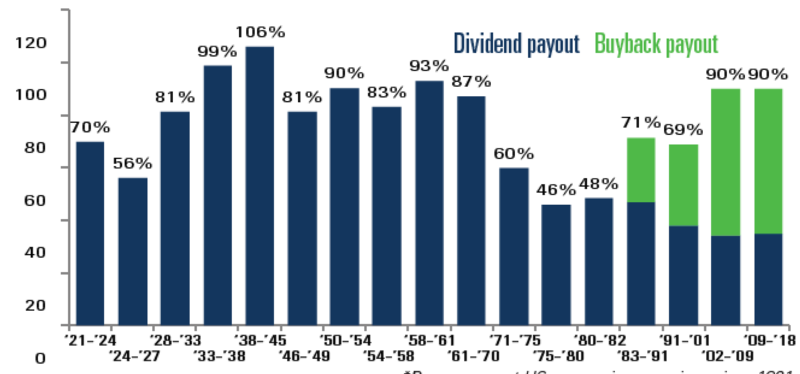
History of buybacks



Source: Robert Shiller, Compustat, Goldman Sachs Global Investment Research.

Pre - 1982

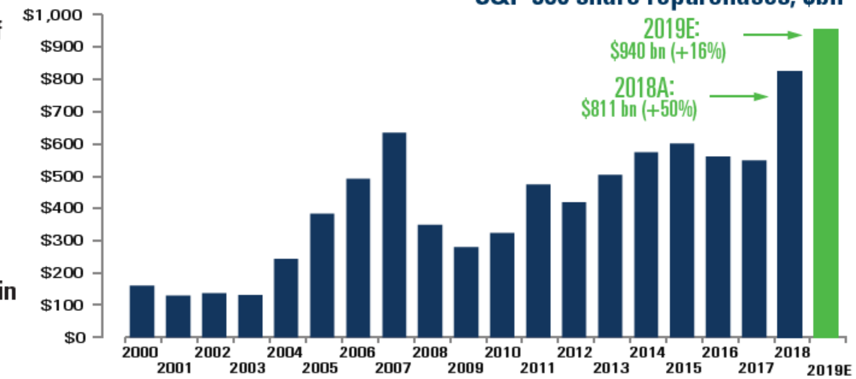
- **In the past, "open market" buybacks were not illegal, but were typically avoided** because US companies feared government charges of market manipulation.
- **As a result, US companies historically returned cash to shareholders via dividends.** From 1880-1980, the dividend payout ratio averaged 78% of earnings.
- **Companies also had the option to repurchase shares via "tender offers" (i.e., offering to buy a certain amount of shares at a pre-determined price/time).** These differ from "open market" buybacks, which dominate the market today.
- **Rule 10b-18 in 1982 provided companies a safe harbor against charges of market manipulation when repurchasing their shares.**



*Bars represent US economic expansions since 1921;
Source: Robert Shiller, NBER, S&P, Goldman Sachs Global Investment Research.

Post - 1982

- **In recent years, share repurchases have grown rapidly, primarily at the expense of dividends.** The number of S&P 500 firms repurchasing at least some of their shares during the prior 12 months has risen from 196 in 1992 to 424 in 2018.
- **Growth in share buybacks has been relatively volatile,** closely tracking corporate earnings.
- **US tax reform passed in December 2017 led to a pickup in buybacks,** as they were an efficient way for many companies to use repatriated funds.
- **We forecast S&P 500 aggregate buyback spending will rise by 16% to $940 billion in 2019,** while spending on dividends will grow by 9% to $525 billion.



Source: Compustat, Goldman Sachs Global Investment Research.

What if there were no buybacks?

Arjun Menon argues that halting buybacks could reduce EPS growth, multiples, and index levels, and temper downside support for equities

Buybacks have been the single largest source of US equity demand each year since 2010, averaging $421 billion annually[1]. In comparison, during this period, average annual equity demand from households, mutual funds, pension funds, and foreign investors was less than $10 billion each. As a result, in a world of no buybacks a significant shift in the supply-demand structure for equities would likely occur. So what would this mean for equity markets?

Decomposing demand

Net US equity demand ($ billions)

Category	2014	2015	2016	2017	2018
Corporations	$ 442	$ 508	$ 697	$ 296	$ 509
Households	95	(138)	(151)	226	191
Life Insurance	(5)	31	98	(45)	(18)
Foreign Investors	114	(191)	(188)	125	(94)
Mutual Funds	95	58	(112)	(134)	(124)
Pension Funds	(272)	(7)	(217)	(162)	(243)
Other	12	(7)	(12)	(17)	9
less					
Foreign equities by US	432	197	22	167	128
Credit ETFs	50	57	96	123	100
Included among holders above are:					
Equity ETF purchases	$ 191	$ 174	$ 188	$ 347	$ 210

Source: Federal Reserve Board and Goldman Sachs Global Investment Research.

#1: Lower EPS growth and P/E multiple contraction

From a fundamental perspective, removing buybacks would have a negative effect on EPS growth. Aggregate earnings growth trails EPS growth because buybacks boost earnings per share by reducing the number of shares outstanding. During the past 15 years, the gap between EPS growth and earnings growth for the median S&P 500 company averaged 260 bp (11% vs. 8%). In 2018, the spread equaled 200 bp (20% vs. 18%). Another approach to estimating the boost to EPS growth in excess of earnings growth is the net buyback yield[2]. This yield reflects the percent of market cap repurchased during the trailing 12 months. The S&P 500 net buyback yield averaged 2.6% during the past five years, close to the actual 290 bp gap between median EPS and earnings growth (10% vs. 8%). Hence, we estimate a hit to forward EPS growth expectations of around 250 bp in a world without buybacks.

This, in turn, could lead to P/E multiple contraction. During the past 30 years, a 250 bp lower expected FY2 EPS growth has corresponded with a roughly one multiple point lower forward P/E multiple for the median S&P 500 stock.

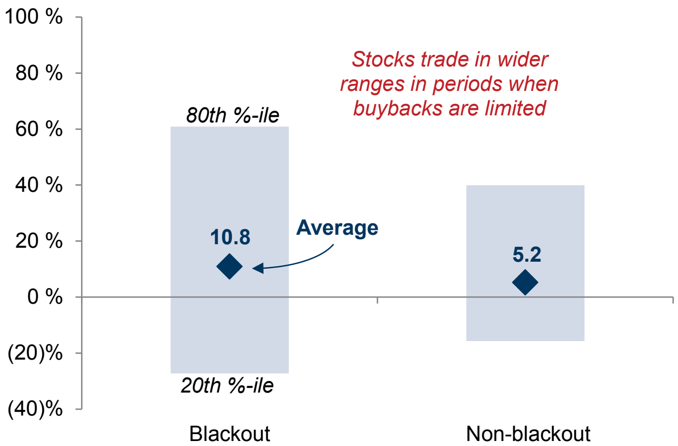
#2: Lower index levels, wider trading ranges and higher vol

Prohibiting buybacks would reduce downside support for equity prices since companies could no longer step in to repurchase shares when their stock prices tumble. Quarterly buyback blackout periods, which begin around five weeks prior through two days after a company releases earnings, provide a glimpse of what this might look like. During these periods, companies are restricted from executing discretionary buybacks and therefore tend to repurchase fewer shares (see pg. 14 for details.) While a blackout period is not a pure "no buyback" scenario, we believe it provides a reasonable proxy for a dramatic decline in repurchase activity.

During the past 25 years, the 20th percentile return for stocks within the S&P 500 has averaged -27% (annualized) during buyback blackout periods compared with -16% when companies can freely buy back their shares. The average (11% vs. 5%) and 80th percentile (61% vs. 40%) stock returns are also higher during buyback blackouts likely due to the boost from quarterly earnings releases. In addition to its impact on returns, return dispersion (16 pp vs. 14 pp) and volatility (16.4 vs. 15.8) during blackout windows have also been higher compared with non-blackout periods. Taken together, removing or limiting buybacks would almost certainly create downward pressure on equity prices and widen trading ranges.

Wider ranges

S&P 500 performance since 1995 in buyback blackout/non-blackout periods, % annualized



Source: FactSet and Goldman Sachs Global Investment Research.

The risk: a downward shift in equity demand

However, our index sensitivity estimates could prove to be too conservative if prohibiting buybacks also increases the supply of equities relative to demand at current prices. Theoretically, a downward shift in the demand curve should lead to a decline in prices, all else equal. Although average returns during blackout periods have been higher than in non-blackout periods, eliminating or curtailing the largest source of equity demand could potentially shift the demand curve substantially lower if other investors are unable to replace the corporate bid at current prices, which we view as unlikely.

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1 Federal Reserve's Financial Accounts quarterly report (Z.1), measured as gross repurchases minus share issuance plus M&A.

2 Calculated as share repurchases minus share issuance, divided by the starting market cap.

Interview with Steven Davis

Steven J. Davis is the William H. Abbott Distinguished Service Professor of International Business and Economics at the University of Chicago Booth School of Business. He is also is a senior fellow at the Hoover Institution, advisor to the U.S. Congressional Budget Office, and visiting scholar at the Federal Reserve Bank of Atlanta. Below, he argues that banning stock buybacks could trap resources in older/larger firms, hindering efficient capital allocation and job creation.

The views stated herein are those of the interviewee and do not necessarily reflect those of Goldman Sachs.

Allison Nathan: Stock buybacks haven't been a focus of your research. But there's a narrative that restricting companies from returning cash to shareholders by banning buybacks will lead to more investment and more jobs. Given your research on business formation and job creation, where is this narrative right/wrong?

Steven Davis: I think the narrative is largely wrong. Stock buybacks don't affect the level of investment in the economy; they affect where that investment goes. To see that point, suppose I'm an investor and I've got $100,000 in my stock portfolio because that's how much I want to put in stocks. If a company buys back $10,000 worth of my shares, that doesn't change how much I want to invest in stocks. So I'll take that $10,000 and invest it in some other stock.

> "Stock buybacks don't affect the level of investment in the economy; they affect where that investment goes."

Now, if a company is banned from buying back its stock, the amount of investment in the economy doesn't change, but those resources are instead trapped inside a company that doesn't have a great use for them. How do we know that? Because if they did have a great use for them, they would have invested them internally in the first place. And the underappreciated reality is there are enormous differences in productivity and investment opportunities across firms no matter the region, size or industry, and these opportunities are always changing as circumstances shift. So, ideally, we want the capital markets to take the money investors are willing to invest at any point in time and allocate it to the best uses so as to drive growth, productivity, innovation and job creation—maximizing the overall size of the pie. But if we restrict how corporates can use their cash, we undermine that process of allocating investable resources to their best uses.

Allison Nathan: How do we prioritize across "best uses" given that some of these goals—like increasing productivity vs. creating jobs—don't always go hand in hand?

Steven Davis: You're right that they don't always go hand and hand, which I also think is generally underappreciated. We tend to want growth because we assume growth creates jobs, and to a large extent that's true. But some companies, such as tech firms in Silicon Valley, play a major role in driving innovation and output growth in the economy, but don't employ that many people relative to what they produce.

In contrast, some of the most employment-intensive activities in the economy occur among smaller and younger businesses that may not always be as productive or innovative. But the jobs they create allow people to earn a living and engage productively in society, which also serves an important economic and social function. So there are big differences across firms in terms of how important they are for growth and innovation versus how important they are for jobs. But both are important in the grand scheme of things. And that ties back to our earlier discussion because if things like restrictions on stock buybacks trap capital in older businesses, that means there will be less capital available for young businesses, which are an important source of jobs.

Allison Nathan: But aren't the largest, richest companies—who typically buy back the most stock—best placed to create jobs if they instead reinvest? And what are the implications for income inequality if they don't?

Steven Davis: The reality is closer to the reverse. Empirically, we find that larger, mature firms tend to hire more educated, skilled and experienced workers, who already have relatively high incomes and relatively good opportunities. Meanwhile, smaller and younger businesses tend to hire younger and less educated workers compared to bigger, more established businesses. So trapping resources in larger and older businesses not only shrinks the overall size of the pie, as we discussed, but also tends to reinforce the unequal distribution of the pie. If we really want to provide good jobs and earnings opportunities for people at the lower end of the learning and skills distribution, we should let investment flow to the younger and smaller business that tend to hire these workers in larger numbers, rather than forcing investible resources to remain in mature companies.

> "Trapping resources in larger and older businesses not only shrinks the overall size of the pie… but also tends to reinforce the unequal distribution of the pie."

Allison Nathan: You've discussed how banning buybacks would create economic distortions. But do buybacks themselves create economic distortions?

Steven Davis: I think there are some economic distortions associated with buybacks, but these are really a function of deeper features of our financial and tax system. For example, many aspects of our tax system favor debt financing over equity financing. And to the extent that buybacks are an attempt by some companies to alter their financing away from equity and towards debt, that can be a concern. This is especially the case if companies become highly leveraged, leaving the overall system vulnerable. But here buybacks are really a symptom of the distortion, while the tax system is the deeper cause. So the fix has nothing to do with buybacks, but would instead entail giving debt and equity financing more equal treatment under the tax code.

> "I think there are some economic distortions associated with buybacks, but these are really a function of deeper features of our financial and tax system."

Allison Nathan: All that said, it doesn't always seem like resources in the economy are well-allocated today. Can't policy help?

Steven Davis: The problem is that it's very difficult for the government to efficiently direct resources through social and economic policy. A better way to achieve this goal is to lower the regulatory and other barriers that inhibit capital reallocation, the formation of new companies, and the growth of young ones. Historically, the United States has been a successful economy in large part because it has had a more hospitable environment for new business formation and for the development and growth of successful businesses. But that environment has deteriorated somewhat over the decades. So the role for policy should be to re-create that favorable environment, which will benefit everybody and especially people at the lower end of the skill distribution.

Allison Nathan: What policies could help re-create that environment?

Steven Davis: For one, simplify the tax code—not just the corporate tax code, but also the treatment of business income under the individual tax code and in areas like unemployment insurance and the myriad other taxes that businesses wrestle with. Navigating the complexity of the tax code is a challenging, costly burden for people trying to start or grow small businesses today.

Second, reduce labor market restrictions and regulations. These have grown enormously over time. One of the best documented examples is the rise of occupational licensing restrictions, which are usually imposed at the state and local level. The share of jobs in the US that require a government-mandated license has risen from about 5% in the 1950s to about 20-25% today. These licensing restrictions apply to hairdressers, dog groomers, landscapers, interior designers, massage therapists, and hundreds of other occupations—often for jobs at the lower end of the earnings distribution. And the occupational licenses are usually not reciprocal across state lines. So even when somebody jumps through all the hoops of training, and testing, and apprenticeship, and cash out of pocket to become licensed in one state, if they move to another state, they often have to go through the whole process again. That makes it harder for people to relocate to where jobs are plentiful and earnings opportunities are good. It also makes it harder to start or grow businesses more broadly, because the business must employ licensed workers to expand.

Third, revamp business regulations and zoning restrictions at the local level to lower business startup costs. These regulations and restrictions differ across local jurisdictions, and no single one of them might seem particularly important. But if you're starting a business, understanding and complying with all of these different rules is expensive and time consuming, and therefore inhibits the formation of many businesses and the growth of many others. Likewise, we've seen an enormous expansion in the scale, scope and complexity of the regulatory system at the federal level. This expansion, which happened over decades under both republican and democratic administrations, involves environmental, labor and product market regulations and much more.

The combination of all these regulatory factors makes for a much more complex and costly business environment, the burden of which often falls heavily on younger and smaller businesses, and, in turn, on the younger and less educated workers they tend to hire. Streamlining regulations and reducing compliance costs would help re-create an environment that fosters new business formation, greater job opportunities for people who need them most, and a more prosperous economy.

Q&A: stock buyback mechanics

We sit down with Neil Kearns, head of Goldman Sachs' corporate trading desk, to address the size, impact, and outlook for US share repurchases.

The interviewee is an employee of the Goldman Sachs Securities Division, not Goldman Sachs Research. The views stated herein are his own and may not necessarily reflect those of Goldman Sachs.

Q: How large is the corporate bid in the stock market?

A: US corporates have been the largest net buyers of US equity for the last decade, repurchasing $5tn+ since the financial crisis. Last year, roughly $1.1 trillion of repurchases were authorized, with about $900 billion actually repurchased. As a share of the overall trading footprint, that's around 6-7% of average composite volume, which might be viewed as a slightly underwhelming number. But companies repurchase stock under rule 10b-18, a safe harbor enacted by the SEC in 1982 to provide companies an affirmative defense against accusations of stock price manipulation. This rule provides volume, timing and price limitations on how companies buy back stock. Pulling out the non-eligible volume, the trading footprint increases to about 10% on average, and into the teens during market weakness.

Q: What is the major driver of volatility in share repurchases?

A: The largest driver of share repurchase volatility is broader equity market performance. In particular, the corporate bid tends to become more aggressive in a falling market as fundamental investors move to the sidelines. In periods of extreme dislocation, like we witnessed at the end of last year, repurchase activity can temporarily spike by multiples of average levels, as companies take advantage of attractive price points/valuations, and which may ultimately also have a secondary effect of tempering price volatility. That said, companies are cognizant of their trading footprints and generally aim to be less than 10% of trading volume.

Q: How much seasonality is there in share repurchases?

A: There is not a great deal of seasonality. Q1 tends to be the lightest quarter of activity—about 23% of total annual notional—given that companies have the least visibility on what earnings will look like that year. Q2 tends to be a little bit more active at around 24%, while the last two quarters average around 26 to 27%, as companies feel more confident in repurchase levels given greater clarity on earnings strength/cash flow generation in the second half of the year.

Q: We are in the midst of a blackout window for share repurchases, which occurs four times a year around quarterly earnings. Does that mean companies can't buy stock?

A: No. The other rule relevant to share repurchase programs is 10b5-1. The SEC enacted this rule in 2000 to provide senior executives, who have a desire to sell equity, an affirmative defense to any charge of insider trading, by adopting a written plan to sell at a time when they are not in possession of material non-public information (MNPI). The plan is a written contract between the individual and their broker, and contains very specific instructions on trade dates, sale parameters, etc. Though the plan may extend through a blackout window when the individual possesses MNPI, because it's ultimately on auto-pilot, the executive is protected. Companies have applied this same safe harbor to buyback programs, enacting plans before the blackout window that will run on auto-pilot during the window. Very little public information is available on 10b5-1s, but an internal analysis of 350 companies suggests that approximately 85% of companies utilize them to continue to purchase stock during closed windows. Companies do tend to be more conservative than in the open window (when they have access to real time information); we observe a notional spend reduction of ~30% during the blackout window.

Q: How do companies judge the success of their stock repurchase programs?

A: From an execution standpoint, most companies judge the success of their program by comparing the average price at which they've purchased their shares on any given day, to the volume weighted average price (VWAP)—a daily benchmark that is readily available on Bloomberg. If their purchase price is below VWAP, they've "saved" money. Given the billions of dollars spent annually on share buybacks today, senior management and more frequently, corporate boards, have become increasingly focused on execution performance versus the daily benchmark, in some cases adjusting the structure of their program to specifically achieve this. In my view, this narrow focus on daily VWAP has the potential risk of missing more attractive valuation opportunities.

Q: How would you judge investor focus on stock buybacks today?

A: Focus from the buy side community is at an all-time high, with investors frequently questioning whether the very strong corporate bid we've observed over the past decade will persist, and looking at this as a potential harbinger of equity market performance. But if investors are looking to share repurchases for market direction, they are probably one or two quarters behind; corporate earnings drive share repurchases—not the other way around.

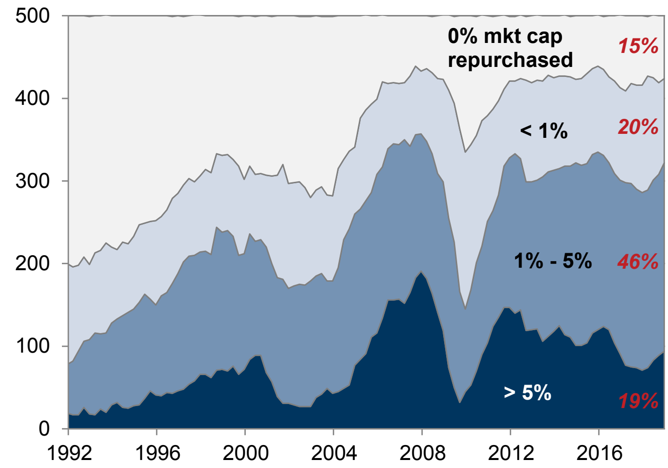
Q: Do you see any evidence that the corporate bid is diminishing, especially given increased focus in Washington, DC?

A: Not currently. Share repurchase authorizations are up approximately 13% yoy, which is remarkable given the surge in buybacks last year. And more broadly, the US economy continues to do reasonably well, the Fed appears to be on pause, and US-China trade negotiations are moving in the right direction. So we have little reason to believe that US corporates will not continue to generate strong free cash flow, which, as I mentioned, has historically been the primary driver of stock repurchases.

US buyback background

Most S&P 500 firms repurchase some shares…

Trailing 12m buybacks as share of average market cap, %



Source: Compustat, Goldman Sachs Global Investment Research.

…though 10 firms made up 64% of buyback growth in 2018

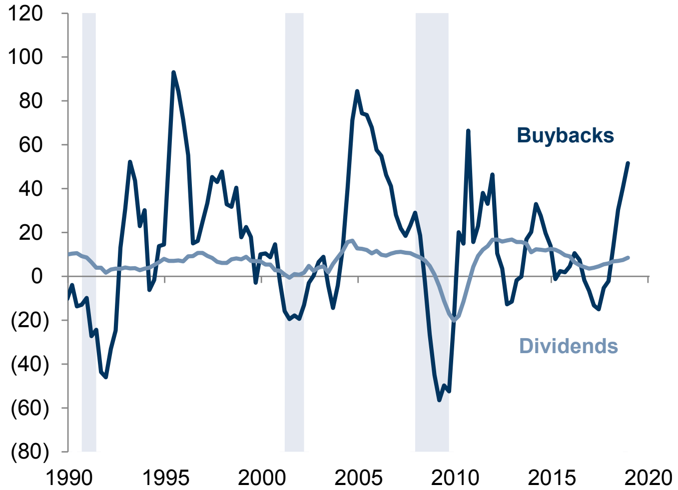
Spending among firms accounting for the largest share of S&P 500 buyback growth

	Share repurchases					Capex and R&D				Capex+
	Spending		Change		% of	Spending		Change		R&D to
Company	2017	2018	$ bn	%	SPX chg	2017	2018	$ bn	%	Sales
Apple (AAPL)	$34	$74	$40	116 %	**15 %**	$24	$29	$5	19 %	11 %
Oracle (ORCL)	4	29	25	637	**9**	8	8	-1	(8)	19
QUALCOMM (QCOM)	1	24	22	1695	**8**	6	6	0	(3)	29
Cisco (CSCO)	8	23	15	195	**6**	7	7	0	5	14
Amgen (AMGN)	3	18	15	435	**5**	5	5	0	4	20
Wells Fargo (WFC)	10	23	13	124	**5**	0	0	0	NM	0
Bank of America (BAC	13	25	12	92	**4**	0	0	0	NM	0
Facebook (FB)	5	16	11	208	**4**	14	24	10	67	43
Broadcom (AVGO)	0	11	11	NM	**4**	4	4	0	3	21
AbbVie (ABBV)	1	12	11	752	**4**	6	11	6	94	35
Top 10	**$81**	**$255**	**$174**	**216 %**	**64 %**	**$75**	**$95**	**$20**	**26 %**	**13 %**
Other 490	**460**	**556**	**97**	**21**	**36**	**856**	**955**	**99**	**12**	**9**
S&P 500	**$540**	**$811**	**$271**	**50 %**		**$931**	**$1,049**	**$118**	**13 %**	**9 %**

Source: Compustat, FactSet, Goldman Sachs Global Investment Research.

Buybacks are typically more volatile than dividends…

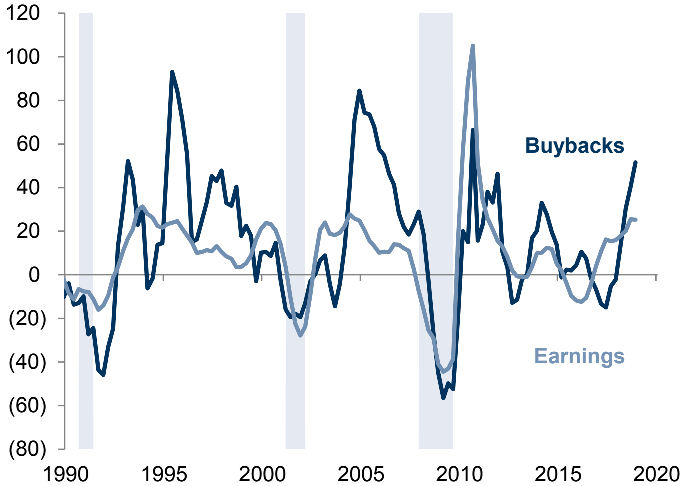
Trailing four-quarter growth, % yoy



Source: Compustat, S&P, Goldman Sachs Global Investment Research.

…and closely track earnings growth

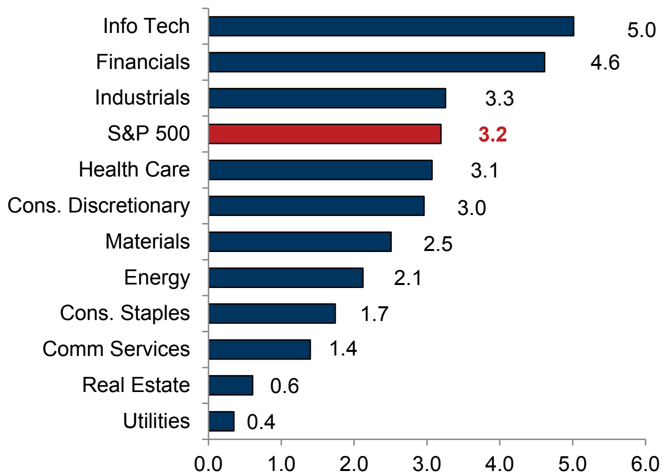
Trailing four-quarter growth, % yoy



Source: Compustat, FactSet, Goldman Sachs Global Investment Research.

Buyback activity differs by sector…

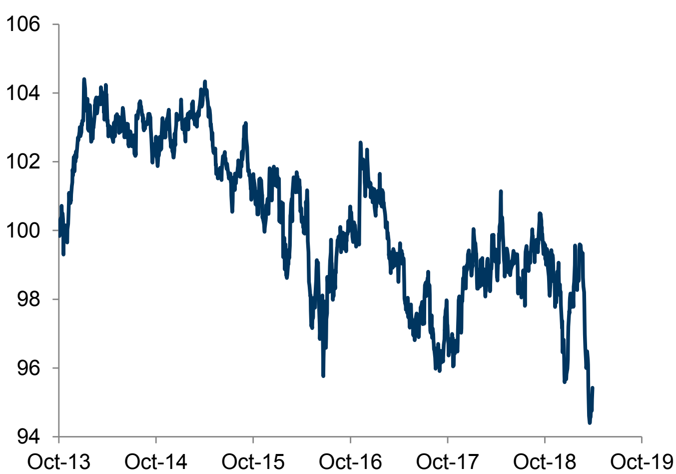
Buyback yield by S&P 500 sector



Source: FactSet, Compustat, Goldman Sachs Global Investment Research.

…and stocks with high buyback activity have lagged of late

GS buyback basket (GSTHREPO) vs. S&P 500



Source: Goldman Sachs Global Investment Research.

Explaining the transatlantic buyback gap

Sharon Bell argues that share buybacks will likely rise in Europe, but are unlikely to reach the same degree of use as in the US

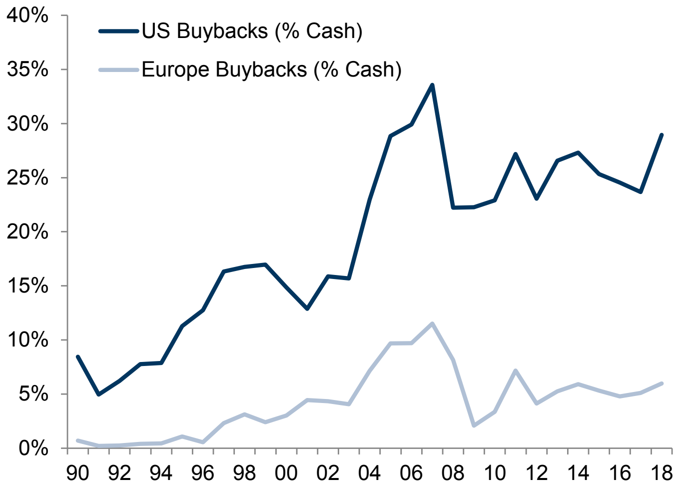
The boom in US share buybacks has left many investors asking why we don't see a similar trend in Europe, or questioning whether one might emerge. Buybacks have started to rise in Europe, and we expect this trend to continue. But we doubt that European companies will embrace a more US-style buyback culture.

The transatlantic buyback gap

The gap between buybacks in the US and Europe is huge, and has not narrowed. Some of this owes to the simple fact that the US stock market is bigger and US companies generate more cash. But even as a percent of cash usage, buybacks are tiny in Europe (5%) compared with the US (25-30%).

A large gap

US and European stock buybacks, % of cash



Source: Datasteam, I/B/E/S, Goldman Sachs Global Investment Research.

We see six drivers of this transatlantic divide on buybacks.

#1: European uncertainty. European companies tend to seek a higher cash buffer, primarily due to the high cost of equity and low returns on cash owing to record-low interest rates. In theory, low interest rates would offer European companies the opportunity to lever up and potentially disburse cash to shareholders via stock buybacks. However, the low-rate environment is generally viewed in Europe as a reflection of a very weak or uncertain path for growth and inflation. As a result, the preference for cash in Europe has remained relatively high. Indeed, unlike US companies that have been actively re-leveraging since the end of the global financial crisis, European companies have continued to de-leverage.

#2: Different share ownership structures. Management incentive schemes and employee stock programs are used more frequently in the US than in Europe, which leaves the interests of management and employees more aligned with repurchase plans. However, in some European countries, workers' councils or worker representatives on boards may have more interest in using cash for reinvestment than in buying back equity. Additionality, activist investors are much more common in the US than in Europe, and they frequently pursue more aggressive balance sheet strategies. Finally, many European companies have large cross shareholdings or family ownership that prevent buybacks.

#3: Visibility of quarterly EPS. In the US, investors tend to focus on quarterly earnings, and buyback strategies can help companies meet targets. But, in Europe, far fewer companies issue quarterly earnings reports. That said, European companies in more global sectors (e.g., healthcare, oil, and mining) that report quarterly—and have a more international shareholder base—are more likely to buy back shares.

#4: Demand for stable income. Historically, European pension funds and insurance companies were the dominant holders of equities. Given their demand for liability matching and stable income streams, they often had a preference for companies that pay dividends, rather than buy back shares. However, these investors' share of ownership has fallen as regulation has pushed many into bonds and other asset classes. Therefore, it's doubtful that they are still exerting the same influence over management behaviour as in the past.

#5: Profitability. European corporates have had relatively weak earnings and cash flows in recent years, barely growing in aggregate. So if buybacks are an opportunity to distribute surplus cash to shareholders, European companies have simply had much less available. Nowhere is this truer than in financials, where the priority has been increasing capital ratios, maintaining or increasing dividends, and then catching up in terms of investment in technology.

#6: Legal restrictions[3]. Buybacks were only legalized in Europe beginning in the late 1990s (UK was the exception, with buy backs possible since the early 1980s, as in the US) on changes to domestic/EU law. Yet even post-legalization, various country-specific rules and restrictions have remained in place; e.g., companies in the UK, Germany, France, and Spain are only allowed to purchase up to 10% of outstanding shares (vs. 15% in the US) within a 12 or 18-month period post-approval. These and other restrictions—for example, in Germany shareholder approval of buybacks is required—have left buyback rules generally more stringent than in the US. However, current restrictions do not appear particularly onerous; even stocks in our repurchase basket (GSSTREPO)—which have been selected specifically for their high level of buybacks—had just a median buyback of 3% of market cap in 2017 and 2018.

The future (and implications) of European cash use

Share repurchases are likely to continue to rise. In 2007, share repurchases made up 12% of cash use (vs. 6% today), implying upside potential. However, the magnitude of buyback growth remains unclear in large part because European corporates appear as focused as ever on paying dividends, as evidenced by rising pay-out ratios. This is likely because European companies that have initiated or raised dividends have historically been outperformers, while outperformance of buyback indices has been much less clear.

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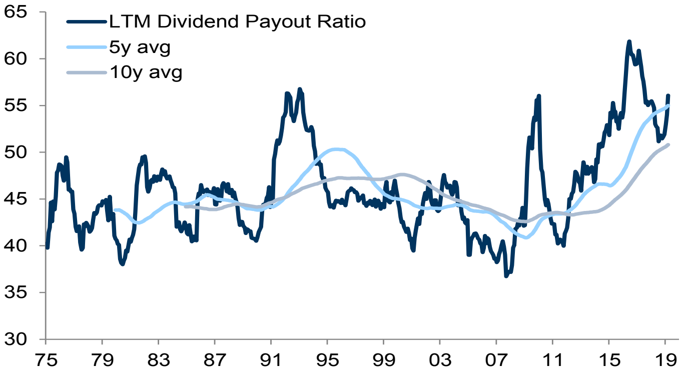
[3] *Share Repurchases in Europe A Value Extraction Analysis, Mustafa Erdem Sakinc, The Academic-Industry Research Network.*

The dividend trend

European LTM dividend payout ratio, %

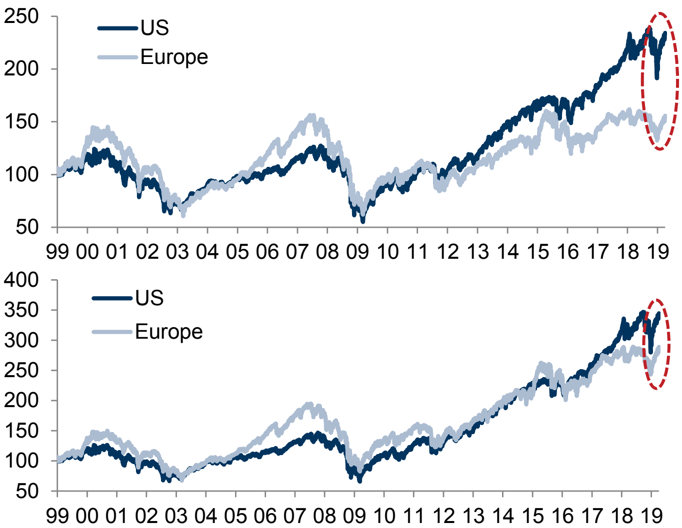


Source: Datastream, Worldscope, Goldman Sachs Global Investment Research.

One implication of the higher dividend/lower-buyback strategy of European managements is that comparing price indices between the US and Europe is probably unfair, as it doesn't include dividends and dividends reinvested. We estimate that over 75% of returns on European equities in the last 20 years have come from dividends (and reinvestment) rather than price. As such, the gap between US and European equities is much smaller in total return terms as opposed to price alone.

The US-Europe gap: now you see it, now you don't

US (S&P 500) and European (Worldscope total equity market) equities, price (above) and total returns (below)



Source: Datastream, Worldscope, Goldman Sachs Global Investment Research.

However, the focus on dividends can reduce a management team's flexibility and lead to missed opportunities. Share buybacks tend to be more flexible because they signal less of a commitment and also can be implemented over time, hopefully taking advantage of dips in share prices to buy. No such flexibility exists with dividend pay-outs, especially given the negativity associated with dividend cuts.

In the end, while the trend may be toward more buybacks, relatively weak European economies suggest a large pickup is unlikely. We expect EPS growth of just 2% in 2019 and 2020 for SXXP, which will likely limit expansion in cash distribution.

Sharon Bell, European Equity Strategist

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What about Japan?

While Japanese stock buybacks hit a record for both approved value and executions in FY2018, Japanese companies' share repurchases are still relatively small compared to both the US and Europe. However, we see substantial scope for the number of companies buying back shares to increase from current levels given that corporate governance reforms are placing greater scrutiny on inefficient balance sheets. In this context, more companies are likely to opt for buybacks as a way to improve capital efficiency and return value to shareholders. Indeed, we forecast buybacks and dividends to reach a record ¥21.3tn ($191bn) in FY18 (the highest level since the global financial crisis), and to rise another 15% yoy to ¥24.6tn ($221bn) in FY19.

All in all, we see four key factors driving our projected growth in share buybacks:

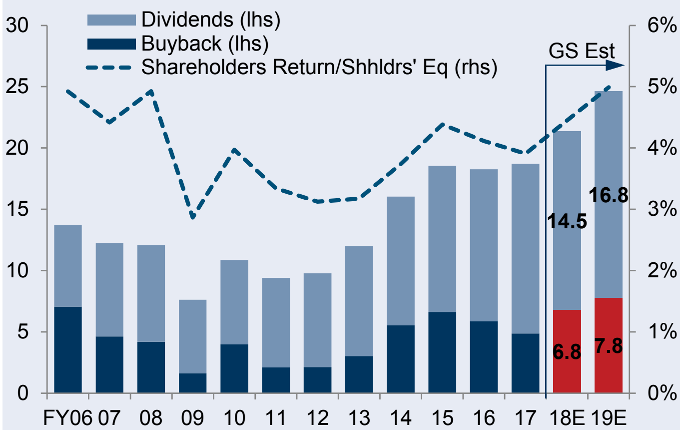
- **Ample cash.** TSE1 firms (excluding financials) continue to increase their liquidity, with ¥111tn ($996bn) as of end-March 2018; twice as many companies are cash rich in Japan than those in the US and Europe.
- **Pressure to improve capital efficiency and unwind cross-shareholdings:** Japanese firms' ROE has remained in single digits (%) for many years, which is low by global comparison. CEO approval ratings at annual general meetings tend to be low at companies with low ROE. And while unwinds are unlikely to occur rapidly, cross-shareholdings will remain a key focus of debate in corporate governance reform, and we expect to see steady reductions in cross-held shares in 2019.
- **Investors demanding higher shareholder returns:** Japanese firms' total cash flow payout (dividends + buybacks) ratio is still far below other global markets. In addition, the buyback yield in Japan remains around one-third the level in the US, at a yield of 0.93% vs. 2.8% in the US in 2018.
- **Relatively few companies are currently buying back shares:** Japanese companies that buy back shares are still in the minority; only ~30% companies have announced buybacks since 2009. Moreover, the top 20 TOPIX 500 companies in terms of the size of their buybacks accounted for more than 70% of the total value of all buybacks.

Hiromi Suzuki, Japan Equity Strategist

For more, see: Japan Shareholder Review Monitor, 11 March 2019.

Ticking up

Shareholder returns for TSE1 (inc. Toshiba), ¥tn, % of cash balances (rhs)



Source: Company data, Goldman Sachs Global Investment Research.

Summary of our key forecasts

	GDP Growth (% yoy)				FX				Equity				Rates (% eop)				Revision Notes
	2019		2020		3-mth		12-mth		3-mth		12-mth		Policy*		10-yr		
	GS	Cons	GS	Cons	GS	Cons	GS	Cons	GS	Cons	GS	Cons	2019	2020	2019	2020	
GLOBAL	3.4	3.4	3.7	3.3	-	-	-	-	-	-	-	-	-	-	-	-	
					EUR/$		**EUR/$**		**SP500**		**SP500**		**Fed Funds**				
US	2.5	2.4	2.1	1.9	1.14	1.14	1.20	1.18	2750	-	3025	-	2.25 to 2.50	2.50 to 2.75	2.80	2.80	On March 20, we pushed back our forecast for the next Fed rate hike into 2020 from 4Q2019, reflecting a stronger-than-expected consensus for no hikes in 2019 in the Fed's median dots from March. On March 29, we lowered our US 10-year Treasury yield forecast for year-end 2019/2020 to 2.80%, from 3.00%/2.85% previously, on the Fed's dovish shift and market repricing of growth expectations. On March 5, we lowered our 3m/6m EUR/USD forecasts to 1.14/1.17, from 1.17/1.20 previously, reflecting the market's negative outlook for growth and inflation in the Euro area.
					EUR/$		**EUR/$**		**Euro Stoxx 50**		**Euro Stoxx 50**		**MRO Rate**				
EURO AREA	1.0	1.2	1.4	1.4	1.14	1.14	1.20	1.18	3250	-	3350	-	0.00	0.25	-	-	On March 5, we lowered our 3m/6m EUR/USD forecasts to 1.14/1.17, from 1.17/1.20 previously, reflecting the market's negative outlook for growth and inflation in the Euro area, as well as our view that the lack of near-term ECB policy support will likely raise the bar for activity data to keep sentiment stable.
					EUR/$		**EUR/$**		**DAX 30**		**DAX 30**						
GERMANY	0.7	0.9	1.4	1.4	1.14	1.14	1.20	1.18	-	-	-	-	-	-	0.35	0.75	On March 8, we lowered our US 10-year Bund yield forecast for year-end 2019/2020 to 0.35%/0.75%, from 0.65%/1.05% previously, given the ECB's dovish March meeting and still-sluggish growth. On March 5, we lowered our 3m/6m EUR/USD forecasts to 1.14/1.17, from 1.17/1.20 previously, reflecting the market's negative outlook for growth and inflation in the Euro area, as well as our view that the lack of near-term ECB policy support will likely raise the bar for activity data to keep sentiment stable.
					$/JPY		**$/JPY**		**TOPIX**		**TOPIX**		**Policy Deposit**				
JAPAN	0.5	0.7	0.7	0.5	108	110	105	107	1650	-	1675	-	-0.10	-0.10	0.10	0.25	
					$/CNY+		**$/CNY+**		**MXCN**		**MXCN**		**7-Day Repo**				
CHINA	6.3	6.2	6.1	6.0	6.65	6.71	6.60	6.66	-	-	94	-	2.50	2.50	-	-	On April 2, we rolled forward and lifted our 12-month MXCN index target to 94, from 86 previously, reflecting the year-to-date rally in Chinese equities and an improved macro backdrop.
					$/BRL		**$/BRL**		**BOVESPA**		**BOVESPA**						
BRAZIL	2.0	2.0	3.0	2.5	3.70	3.80	3.60	3.70	-	-	-	-	6.50	8.00	-	-	

	Brent crude oil ($/bbl)				Copper ($/mt)				Gold ($/toz)				Corn (cent/bu)				
	3-mth		12-mth		3-mth		12-mth		3-mth		12-mth		3-mth		12-mth		
	GS	Cons	GS	Cons	GS	Cons	GS	Cons	GS	Cons	GS	Cons	GS	Cons	GS	Cons	
	72.5	68	60	67	6400	-	7000	-	1350	-	1450	-	375	-	360	-	On April 8, we raised our 3-month Brent price forecast to $72.50, from $65 previously, reflecting the recent oil rally driven by a larger-than-expected deficit owing to tighter supplies and accelerating demand. On April 9, we lowered our 6m/12m corn price forecasts to $3.60/t, from $3.75/t previously, on bearish supply fundamentals, such as higher-than-expected corn stocks in the US and rising crop forecasts in Brazil.

Note: Recent revisions marked in red; GDP consensus is Bloomberg; all other consensus is Reuters; commodity 12-mo consensus is Reuters for 2019 average.

+ CNY daily fix

Source: Bloomberg, Thomson Reuters, Goldman Sachs Global Investment Research.

Glossary of GS proprietary indices

Current Activity Indicator (CAI)

GS CAIs measure the growth signal in a broad range of weekly and monthly indicators, offering an alternative to Gross Domestic Product (GDP). GDP is an imperfect guide to current activity: In most countries, it is only available quarterly and is released with a substantial delay, and its initial estimates are often heavily revised. GDP also ignores important measures of real activity, such as employment and the purchasing managers' indexes (PMIs). All of these problems reduce the effectiveness of GDP for investment and policy decisions. Our CAIs aim to address GDP's shortcomings and provide a timelier read on the pace of growth.

For more, see our CAI page and Global Economics Analyst: Trackin' All Over the World – Our New Global CAI, 25 February 2017.

Dynamic Equilibrium Exchange Rates (DEER)

The GSDEER framework establishes an equilibrium (or "fair") value of the real exchange rate based on relative productivity and terms-of-trade differentials.

For more, see our GSDEER page, Global Economics Paper No. 227: Finding Fair Value in EM FX, 26 January 2016, and Global Markets Analyst: A Look at Valuation Across G10 FX, 29 June 2017.

Financial Conditions Index (FCI)

GS FCIs gauge the "looseness" or "tightness" of financial conditions across the world's major economies, incorporating variables that directly affect spending on domestically produced goods and services. FCIs can provide valuable information about the economic growth outlook and the direct and indirect effects of monetary policy on real economic activity.

FCIs for the G10 economies are calculated as a weighted average of a policy rate, a long-term risk-free bond yield, a corporate credit spread, an equity price variable, and a trade-weighted exchange rate; the Euro area FCI also includes a sovereign credit spread. The weights mirror the effects of the financial variables on real GDP growth in our models over a one-year horizon. FCIs for emerging markets are calculated as a weighted average of a short-term interest rate, a long-term swap rate, a CDS spread, an equity price variable, a trade-weighted exchange rate, and—in economies with large foreign-currency-denominated debt stocks—a debt-weighted exchange rate index.

For more, see our FCI page, Global Economics Analyst: Our New G10 Financial Conditions Indices, 20 April 2017, and Global Economics Analyst: Tracking EM Financial Conditions – Our New FCIs, 6 October 2017.

Global Leading Indicator (GLI)

The GS GLI was designed to provide a timelier reading on the state of the global industrial cycle than existing alternatives did, and in a way that is largely independent of market variables. The GLI has historically provided early signals on global cyclical swings that matter to a wide range of asset classes. The GLI currently includes the following components: a consumer confidence aggregate, the Japan IP inventory/sales ratio, Korean exports, the S&P GS Industrial Metals Index, US initial jobless claims, Belgian and Netherlands manufacturing surveys, the Global PMI, the GS AUD and CAD trade-weighted index aggregate, global new orders less inventories, and the Baltic Dry Index.

For more, see our GLI page and Global Economics Paper No. 199: An Even More Global GLI, 29 June 2010.

Goldman Sachs Analyst Index (GSAI)

The US GSAI is based on a monthly survey of GS equity analysts to obtain their assessments of business conditions in the industries they follow. The results provide timely "bottom-up" information about US economic activity to supplement and cross-check our analysis of "top-down" data. Based on analysts' responses, we create a diffusion index for economic activity comparable to the ISM's indexes for activity in the manufacturing and nonmanufacturing sectors.

Macro-Data Assessment Platform (MAP)

GS MAP scores facilitate rapid interpretation of new data releases for economic indicators worldwide. MAP summarizes the importance of a specific data release (i.e., its historical correlation with GDP) and the degree of surprise relative to the consensus forecast. The sign on the degree of surprise characterizes underperformance with a negative number and outperformance with a positive number. Each of these two components is ranked on a scale from 0 to 5, with the MAP score being the product of the two, i.e., from -25 to +25. For example, a MAP score of +20 (5;+4) would indicate that the data has a very high correlation to GDP (5) and that it came out well above consensus expectations (+4), for a total MAP value of +20.

Real-Time Indicator of Activity (RETINA)

GS RETINA uses a comprehensive econometric methodology to filter incoming information from the most up-to-date high-frequency variables in order to track real GDP growth in the Euro area and the UK.

For more, see European Economics Analyst: RETINA Redux, 14 July 2016 and European Economics Analyst: Introducing RETINA-UK, 2 August 2017.

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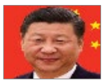

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Reg AC

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