

Buybacks Bears and Bulls

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A lot of attention has been paid to share repurchases recently, which makes sense given the amount of money involved. As of June 30, 2016, there had been almost \$450 billion net transferred from companies to shareholders over the trailing 12-months through repurchase programs—very close to the all-time high in March 2008. Transferring that much wealth between stakeholders will garner attention, and not all of it is positive.

Buyback *Bulls* believe that repurchases are beneficial. Management is working in the best interest of its stakeholders and some companies have excess capital after all the operating costs and reinvestment in the business. There are different opportunities on how to deploy that excess capital: starting new projects, acquiring companies, and paying down debt. After reviewing all of these, the company decides its own equity is the best investment it can make. Bulls focus on the companies with the highest levels of repurchases, which have the highest conviction in their own equity.

Bears contend that stock repurchases are nothing more than financial engineering, a method for managers to prop up earnings per share and stock prices to meet analyst expectations and vest their options. The Bears make cogent arguments and appeal to the discontent of wealth distribution in our country. But most news articles—Bull or Bear perspective notwithstanding—offer little research or comprehensive data regarding whether buybacks are truly a manipulation of earnings or stock prices. This article explores the mechanics and effects of stock repurchase plans.

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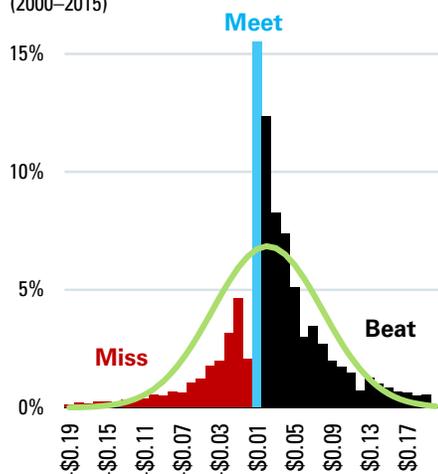
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(2000–2015)



Source: OSAM calculations

Earnings Manipulation

Earnings represent the amount of profit a company generates for shareholders and have become the benchmark for gauging the effectiveness of management. In an effort to align managers' interests with shareholders, CEO compensation has shifted over time from cash salary and bonus to a mix of stock and options plus vesting schedules where stock and options comprise 55.6 percent of the compensation,¹ with earnings per share (EPS) as one of the targets for vesting stock or options. Stock compensation also has some controversy around it because while it can incent managers towards positive activities to increase earnings distributed to the shareholders, it can also incent managers to manipulate earnings for short-term personal gain.

Let's state the obvious: some companies manipulate earnings. Evidence shows companies are avoiding near misses. Figure 1 is a histogram showing the quarterly earnings versus the most recent consensus estimate for the Large Stocks Universe.² Abnormally few companies are missing earnings by $-\$0.01$ and there is a spike in companies that only

¹ Total compensation numbers calculated from CEOs in 2014 in the Compustat ExecuComp database.

² Compustat Large Stocks are all the stocks domiciled and traded in the U.S. with a market capitalization greater than the universe average. Stocks in this analysis also require coverage in the IBES universe.

match expectations. If managers were not manipulating earnings, we would expect a normal distribution with some just beating earnings, and some just missing. This is obviously not a normal distribution and is indicative that some companies are figuring out ways to make sure that they don't fall short.

Companies try to beat earnings from both angles, managing down the analyst expectations³ as well as figuring out ways to boost EPS. There are two avenues for manipulating EPS: (a) inflating net income by recognizing revenue early or delaying expenses, or (b) repurchasing shares increasing the overall EPS through the denominator effect. The manipulation of net income is a whole report in itself but for this paper let's just broadly state that companies boost income by adjusting the accounting treatment on non-cash items, accruals. We're focused on answering the question whether the repurchase of shares is a positive activity for shareholders or just a manipulation earnings.

There is a lot of research available to help understand the mechanics of share repurchases. Hribar, Jenkins, and Johnson published an article in 2006 titled "Stock Repurchases as an Earnings Management Device" in the *Journal of Accounting and Economics* that did a great job detailing stock repurchases for earnings management. They examined the effect of share repurchases on stock price manipulation and show an interesting statistic:

"Within the sample of repurchasers, however, only 11.25 percent of the observations increase EPS by one cent or more. In contrast, 24.1 percent of the observed repurchases actually decrease EPS by one cent or more."

How is it possible that only 11 percent of the companies repurchasing shares are actually increasing EPS by one cent, and more than double the number of companies are actually *decreasing* EPS? Part of the explanation comes from how hard it is to manipulate earnings from the denominator. Let's build a hypothetical example of a company with a thousand shares outstanding that is repurchasing five percent of its shares over the quarter, which is a pretty sizable amount that would normally land it in the top decile of repurchases. Table 1 demonstrates scenarios when earnings are at one hundred dollars, one thousand dollars, and two thousand dollars, which would give different levels of Earnings per Share at 10 cents, one dollar, and two dollars for the quarter. The scenario shows two things: (1) the effect of repurchases is muted because the earnings per share are calculated as the average shares over the entire quarter and (2) if you're starting with a modest earnings per share, it's difficult to move EPS—even by a penny. At ten cents per share, you would have to repurchase almost 20 percent of the company over the quarter to move it a penny. At one dollar EPS, a five percent repurchase has some effect but merely by two and three cents of earnings per share.

Table 2 shows the average EPS over this analysis period. The majority of companies have a low base of earnings per share to move from (between zero and a dollar). Companies with negative earnings are slightly more likely to dilute, which makes sense because it would actually *increase* their negative EPS, bringing it closer to zero. And companies repurchasing more than five percent do have a higher average EPS but the majority still fall into the range where it's not easy to move EPS through a share repurchase.

Table 1: Hypothetical EPS Movement from Share Repurchases

	Low EPS	Moderate EPS	High EPS
Earnings	100	1,000	2,000
Shares Outstanding	1,000	1,000	1,000
EPS	\$0.10	\$1.00	\$2.00
Repurchase over Quarter	5%	5%	5%
EPS After	\$0.103	\$1.026	\$2.051

**Table 2:
Compustat
Large Stocks**

	-5% or lower dilution	-5% to -0.5%	-0.5% to 0.5%	0.5% to 5%	Over 5% repurchase
Negative EPS	16.9%	8.5%	6.5%	2.2%	4.8%
\$0 to \$1 EPS	71.9%	79.0%	75.7%	71.7%	72.4%
Over \$1	11.1%	12.5%	17.8%	26.0%	22.9%

Source: OSAM calculations

³ See <http://www.wsj.com/articles/companies-routinely-steer-analysts-to-deliver-earnings-surprises-1470326310>

What was most surprising was the decrease in earnings from repurchases. While EPS does increase from the denominator effect of reducing shares, there is an offsetting effect from the benefit of cash. Hribar, et al. noted that cash does generate interest income, which contributes to EPS. So in order to calculate the full effect of a repurchase on earnings per share, both the time-weighted change in stock and also the reduction in interest income from cash need to be taken into account.

$$EPS_0 = E_0 / S_0$$

$$EPS'_0 = (E_0 - C_0) / (S_0 - w\Delta S)$$

In 2016, it's hard for investors to recall that there was once a time when cash generated interest income. The article stated, "For example, if a firm earns five percent after taxes on cash..." This seemed to be a ludicrously high expected return on cash. But the article uses 1988–2001 as the sample period. The AA 3-month commercial paper (CP) is a decent proxy for the return on cash and over that time the average CP yield was 5.7 percent.

Table 3: Total CEO Stock-Based Ownership as Percentage of Market Cap – Top Decile of Share Repurchases vs. Remainder of the Universe (Weighted on Stock Value)

% Market Cap	Rest of Companies	Top Decile Buybacks
Total Stock & Options	2.94%	2.65%
Total Stock	2.55%	2.30%
Total Options	0.39%	0.36%
Exercisable Options	0.27%	0.26%
Unexercisable Options	0.12%	0.09%

(1994–2014) Source: Compustat ExecComp database

The "Stock Repurchases as an Earnings Management Device" article proceeds to demonstrate that any repurchases done where the return on cash is lower than the earnings yield actually decreases the earnings per share. To be explicit on this: when the earnings yield (the inverse of a P/E ratio) is higher than the return on cash, it is beneficial to shareholders for increasing EPS. When the return on cash is higher than the earnings yield, the EPS is decreased.

Few would argue that the goals of managers: CEOs are supposed to be increasing earnings per share. The difference between the Bulls and the Bears are the reasons for why management would be repurchasing stock. If stock-based compensation is the reason managers are repurchasing stock, it would make sense that companies with the strongest buybacks have the strongest repurchases. But looking at the Compustat ExecuComp database in combination with the Fundamental database, companies in the top 10 percent on buybacks in fact have *lower CEO stock-based compensation* than the rest of the universe. Table 3 shows that this holds true at the level of total stock-based compensation, just the stock ownership, as well as the options both exercisable and unexercisable.

The analysis doesn't support the case even when looking at it from the other direction: companies with the highest CEO stock-based ownership are not repurchasing more shares. Table 4 shows that, out of the companies where the CEO is owning a significant portion of the company (the average stock-based ownership was around 18 percent), a lower percentage of companies were repurchasing and, for those that did repurchase, the overall level of shares repurchased was less than other companies.

Table 4 (Based on Top Decile of Stock Ownership)

% Companies Buying Back Shares	Other Companies	Top Decile CEO Ownership
Total Stock & Options	34.8	33.9
Total Stock	34.8	33.9
Total Options	35.8	25.6
Exercisable Options	35.6	27.1
Unexercisable Options	35.9	24.2

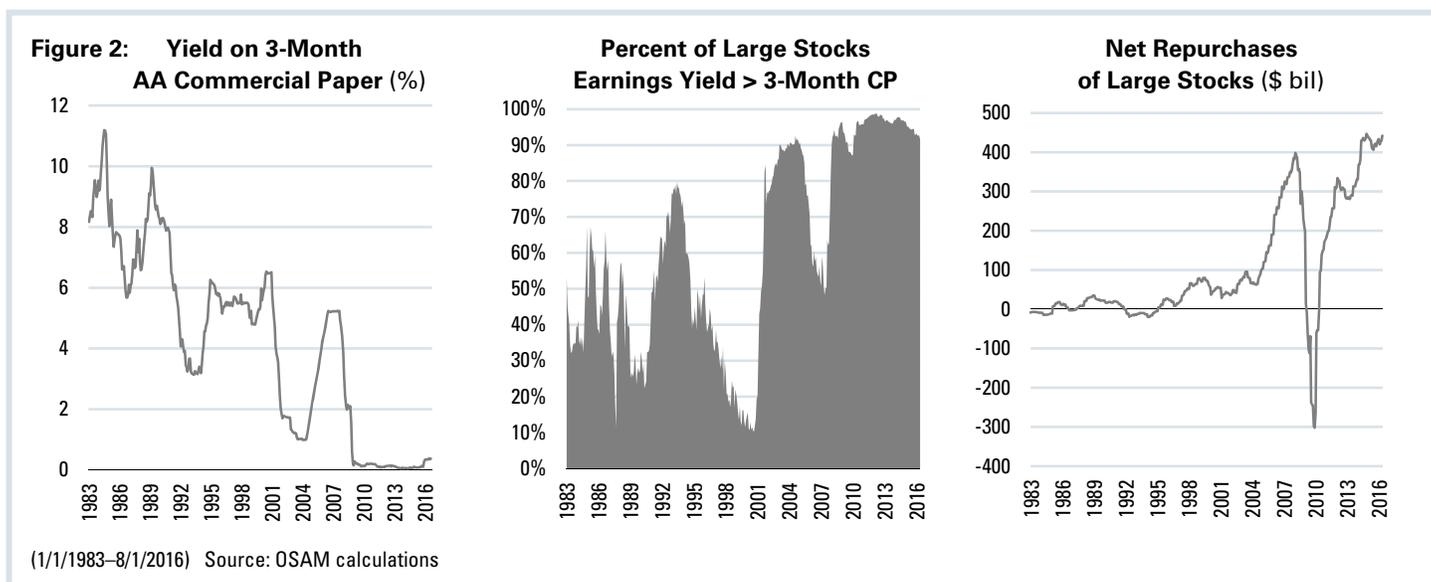
Buyback Yield Average Repurchase %

	Other Companies	Top Decile CEO Ownership
Total Stock & Options	1.28	1.22
Total Stock	1.28	1.21
Total Options	1.28	1.21
Exercisable Options	1.28	1.21
Unexercisable Options	1.30	1.06

(1994–2014) Source: Compustat ExecComp database

There has been a lot of commentary with regard to the historically high levels of share repurchases and, if it's not the increase in stock-based compensation, then what is the reason for the increase in buyback programs? Regulation changes have contributed to this, as Safe Harbor legislation through SEC Rule 10b-18 in 1982 loosened the restrictions for when a company can repurchase stock. Do not underestimate the effect changes in regulation can have. On September 18, 2008—three days after Lehman filed for bankruptcy—the SEC loosened Rule 10b-18 such that there were no more restrictions on blackout periods and raised the percentage a company could participate in volume from 25 percent to 100 percent. This led to an 84-percent increase in buyback announcements October of 2008 over July of 2008.⁴

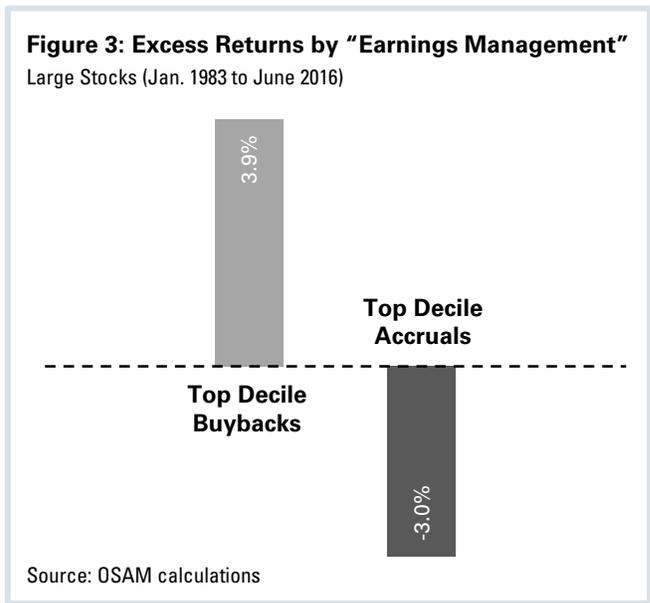
There is a more compelling reason why management is incented to repurchase stocks right now: historically low returns on cash. The “cost” of repurchasing shares in the EPS calculation is at a historical low because of suppressed interest rates. Figure 2 is a panel of three charts. The leftmost chart shows the yield on the three-month AA commercial paper, which has been close to zero since 2008. There was a significant decline over the entire period but, around 2001, there was a shift where interest rates dropped below two percent—meaning that, if a company has a P/E less than 50, then the repurchase of shares increases EPS for shareholders. The middle chart shows the percentage of companies in the Large Stocks Universe with an earnings yield higher than the yield and how there was a huge spike in 2002 in the percentage of companies for whom their EPS would benefit from a repurchase, settling in at over 90 percent of the companies since the financial crisis. The rightmost chart shows the overall level of net repurchases on a trailing 12-month basis within Large Stocks and how there is a corresponding spike in the overall volume of repurchases that coincides with the lower levels of return on cash. Maybe this is *correlation* and not *causation* but it makes sense that when 95 percent of the companies are able to increase their EPS by repurchases because of the historically low levels of return on cash, more of them are going to consider it.



Companies are managing to beat earnings more than miss. We are not sure whether those “bottom-line” beats are coming from accruals or the management of expectations, but it looks like few companies would have the ability to manipulate through repurchases given that most earnings per share are measured in cents rather than dollars. Even with those difficulties, repurchases may have a role in earnings management but that is outweighed by the long-term benefit buyback programs have given shareholders.

⁴ Griffin, Paul A. and Zhu, Ning, “Accounting Rules? Stock Buybacks and Stock Options: Additional Evidence” (December 31, 2009). UC Davis Graduate School of Management Research Paper No. 08-09.

High conviction stock repurchase programs have generated significant excess returns historically. Figure 3 shows the excess returns broken into deciles for companies that are repurchasing shares compared to companies that are suppressing or boosting non-cash expenses relative to their peers. Companies repurchasing shares are rewarded in the marketplace, generating 3.9 percent annualized excess returns over a 33-year period. As a comparison, the same analysis is done based on earnings management through accruals. The top decile of companies boosting earnings by suppressing non-cash expenses are penalized by three percent. The difference in excess returns from strong repurchases indicates a different perception around the usage of accruals—a beneficial signal for investors rather than a mechanism to boost earnings.



Stock Price Manipulation

While the stocks with the strongest repurchases do have the strongest excess returns over time, Bears could argue these excess returns come from the manipulation of stock prices through the repurchases themselves. William Lazonick’s article in the *Harvard Business Review* article “Profits Without Prosperity”⁵ made a strong case, wherein he makes the claim:

“Why are such massive resources being devoted to stock repurchases? Corporate executives give several reasons, which I will discuss later. But none of them has close to the explanatory power of this simple truth: Stock-based instruments make up the majority of their pay, and in the short term buybacks drive up stock prices.”

Lazonick’s statement about the majority of their pay coming from stock-based compensation is right. But is that compensation creating the reason for the buybacks? And are repurchases driving the stock price or are the excess returns from strong repurchases coming from the economic value creation of the company?

Repurchases aren’t influenced by the level of CEOs’ stock ownership but this does not refute the claim that repurchases are a form of stock price manipulation. In order to analyze this, we need a method to decompose the excess returns of companies with high repurchases to determine if the company’s demand for its own shares are driving the excess returns or if it’s the underlying value created by the business relative to its share price.

Buybacks are regulated by the SEC Rule 10b-18, which since 1982 has provided a “safe harbor” around how companies are allowed to repurchase shares. What the rule doesn’t do is provide immunity from Rule 10b-5, where they cannot repurchase shares while in possession of material non-public information. The majority of companies repurchase through open market operations. Since a company has a lot of material non-public information around their own stock, there are blackout periods when a company will not repurchase its own shares.

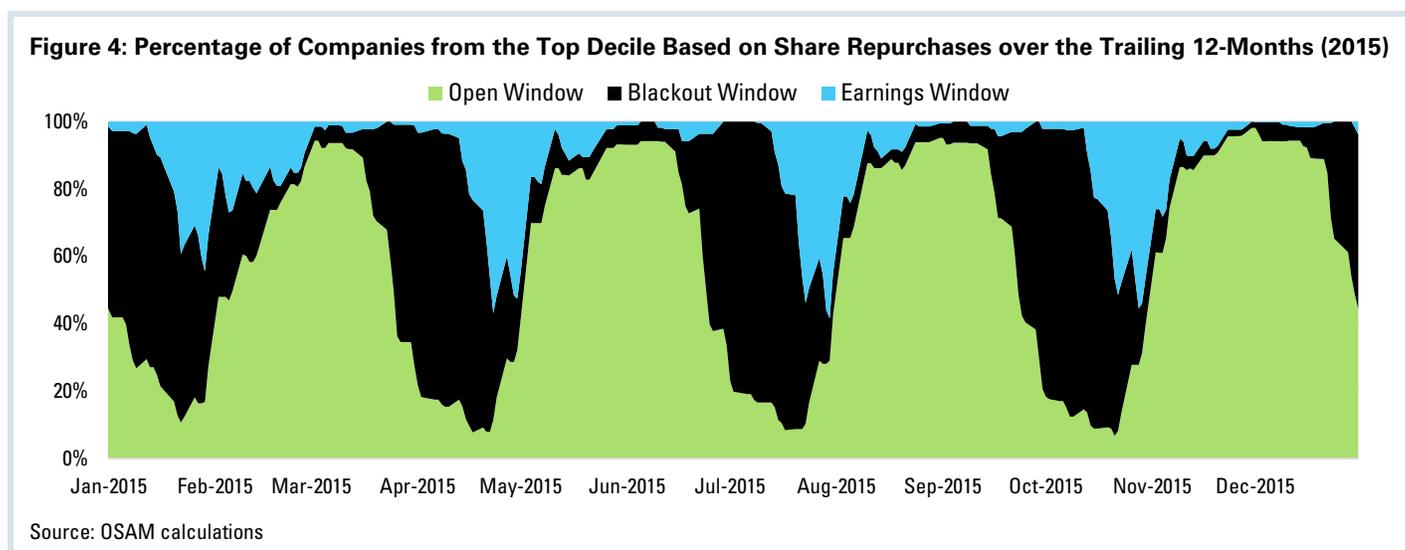


⁵ See <https://hbr.org/2014/09/profits-without-prosperity/>

There is no standard period, although a typical cited practice is to avoid trading from five weeks before earnings to two days afterwards. This blackout period creates windows of time when the company is repurchasing its own shares alongside public investors and a separate window when it's just the public trading.

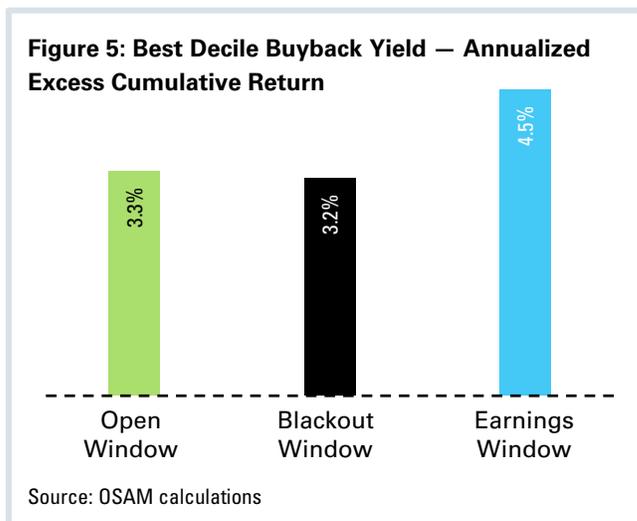
Within this blackout window, there is also the release of the quarterly earnings, which is when new information about the financial health of the firm is introduced to the public. Earnings releases are big drivers of returns and this window can offer us a chance to look at the returns of the stock based on its operating business without the influence of share repurchases.

Not all earnings happen at the same time. The majority of them match fiscal quarters with calendar quarters, creating an earnings season. But some companies have off-quarter earnings cycles. Even within companies that have the same fiscal end dates, there are differences on when they report. The SEC allows 40 days for filing a 10-Q and 90 days on a 10-K, but some report earlier. Figure 4 shows the different windows when there are a lot of companies in a repurchase blackout and other periods of time where there are few companies in the blackout.



Given that there are different weights over different time periods, the appropriate way to calculate the drivers of the excess returns of each window is through the *contribution to return*. Without diving too much into the math, we can calculate how much each group is driving the four percent of excess performance from the top decile of companies. Because each window has different lengths of time, the appropriate way to compare them is to annualize the excess return from each window.

The results show that the annualized excess returns of stocks in the top decile and in the open window (+3.3 percent) are almost the same as the annualized excess returns of top decile stocks in the blackout window (+3.2 percent), and the highest period of annualized excess return comes through the earnings window, the seven days around the earnings announcement. This indicates that the excess returns from stocks that are repurchasing stocks are driven not from the stock repurchases, but rather from the information coming from earnings reports—the underlying economic value generation of the companies.



SUMMARY

Buybacks can be expected to continue at high rates so long as interest rates continue to be lower than the earnings yields of companies and will continue to garner accusations that CEOs are manipulating earnings and stock prices to line their own pockets. But the data offers stronger support for the claims that buyback programs on average generate long-term excess returns for shareholders, driven by the earnings of the companies. It does not mean every buyback program is done for the same reason—and surely that some managers are repurchasing shares to try and manipulate earnings while thinking about their options—but the majority of the repurchase programs are beneficial to investors.

In order to utilize buybacks as an investment signal, use the old President Reagan maxim of “Trust, but verify.” Use *buybacks in combination with value* to confirm management’s reasons for the repurchase and to ensure that management is repurchasing at a discount. Use *accruals* to make sure that management isn’t manipulating earnings through the numerator, which could indicate their motives for the denominator as well. Use *earnings growth* to ensure there is organic growth on top of the EPS consolidation. When used collectively, these can give a comprehensive look into a company and allow investors to use stock buybacks as a signal for wise investments.

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