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A User's Guide to Buyback ROI, Buyback Strategy, and Buyback Effectiveness

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Introduction

In this guide, we explain the nature of share buybacks, why they're done, and how their return can be best measured. A comprehensive understanding of each of these matters can be very helpful before a manager, board director or investor considers a buyback. Unfortunately, the return of buybacks is rarely discussed or analyzed by investors or management.

By not using a return based measure, management creates an analytical gap in both a company's consideration of a buyback program and its formation of a value-creating capital deployment strategy. This gap is especially apparent when contrasted with the detailed return analysis corporate executives perform for capital investments and acquisitions.

Our work in this area was stimulated by research we conducted and published showing that across the market, on average, companies that devote more of their cash earnings to buybacks tend to deliver lower total shareholder returns (TSR) in the form of dividends and capital gains. We wondered if managers really had the right tools to decide whether a particular buyback program would actually benefit the company and its shareholders.

To fill this important gap, Fortuna Advisors developed three measurements called Buyback ROI, Buyback Strategy, and Buyback Effectiveness, as explained below. Our purpose is to enrich the understanding of buybacks and their role in a company's capital deployment strategy so that better buyback decisions can be made in the future. These new tools can also be used by investors to evaluate and compare buyback returns across companies.

The "What" and "Why" of Share Buybacks

A share buyback is a common financial policy tool in which a company exchanges cash for outstanding shares. Like a dividend, buybacks are performed most generally for the purposes of distributing excess cash to shareholders since shareholders do not want their invested capital to sit idle without earning a return. With buybacks, sellers seek to benefit from the immediate exchange of their shares for cash in the face of a potential buying pressure created by the buyback program. Indeed, many studies show that the announcement of a buyback program often leads to near term increases in share prices. Shareholders that continue to hold their shares seek to benefit from having a relatively larger claim on the company's future earnings and cash flow.

As is also the case with dividends, the intrinsic value of the company (the present value of future cash flows) remains largely unaffected in the near term since there is little change to the company's three primary value drivers: revenue growth, operating returns, and investment. This makes share buybacks fundamentally a financial policy tool. Note that there are tax implications if the buyback is financed with tax deductible

debt borrowings, but our research shows that more levered companies tend to deliver lower TSR so we don't believe this tax benefit creates much value on average.

Often, managers suggest buybacks signal to the market their belief that the company is undervalued. If the company is indeed undervalued, management typically believes shareholders will benefit from both the expected appreciation of their shares and their ownership of a now-larger portion of the company's equity. Despite the popularity of this argument, it is somewhat disingenuous because management is using the money of shareholders to buy back shares, not its own. They are not really putting their money where their mouth is. Management's signaling effects would be more impactful if perhaps management publicly committed to buying shares at the same time and at the same average price as the buyback program.

A final well-known but rarely-mentioned-by-managers reason for performing buybacks is that they always boost earnings per share (EPS), a key performance metric often used in executive compensation. Share repurchases reduce the number of outstanding shares in the market, the metric's denominator, and thereby automatically increasing EPS versus what otherwise would have been delivered. While possibly in the short-term interest of managers, our research shows that this artificial EPS enhancement tends to reduce price to earnings multiples. These results suggest that buybacks can be a capital deployment distraction that at best does not benefit and, if overdone, can be quite harmful to investors.

Prioritizing Share Buybacks in a Capital Deployment Strategy

Companies are in the business of deploying invested capital in order to produce profitable goods and services. On behalf of shareholders, managers are responsible for deploying capital to its most profitable and value-creating uses. Management is generally not in the business of financial engineering yet in many cases it seems to spend a lot of time engineering the financials. Too much time is spent on financial policies relating to leverage, leasing, dividends and buybacks despite the fact that most of the differences in TSR between companies can be traced to growth, profitability and capital efficiency – all operating factors.

Management should not pursue a financial policy that undermines the goal of delivering optimal growth, profitability and capital efficiency. Hence, if profitable investments are available, share buybacks, which are fundamentally distributions, should be a very low priority. Only in the case where there is a substantial disconnect between the share price and the true objective intrinsic value of the business should a buyback be anything more than a residual option after all desirable investments.

Measuring the Return of Share Buybacks

Measuring the return of buybacks is necessary to adequately compare buybacks to capital investments and acquisitions – the primary alternative uses of cash. While performing buybacks is categorically a financial policy that has no *fundamental* impact on the intrinsic value of a company, it may very well influence a company's future performance. Just as too much debt can burden a company's solvency or ability to act on new opportunities, buybacks can crowd out profitable investments that would have been beneficial to the future of the company.

All financial policies have real consequences and these consequences certainly require measurement. In the case of buybacks, a process for measuring buyback returns is essential to adequately compare them against other capital deployment options and, therefore, essential to developing a well-planned capital deployment strategy and monitoring that strategy over time.

A process for measuring the return of buybacks will benefit capital deployment strategies in three ways. First, it will encourage management to pursue desirable capital investments over buybacks. Management teams often reject possible capital investments because of artificially high hurdle rates – rates rarely met by the returns of their buyback programs. We have performed numerous studies that reveal that the majority of buybacks do not generate a 10% return over the long term, yet management teams often hold their capital investments to a higher standard. This may bias their capital deployment strategies toward buybacks. For companies in which this is the case, management should reevaluate its hurdle rates and make sure their managers are encouraged to pursue all desirable capital investments.

The second benefit of a buyback return measurement process is that it will discourage management teams from executing buyback programs in order to improve EPS when the underlying returns are inadequate. A buyback return measurement process provides accountability to this common and irresponsible practice, and this accountability will be to the long term benefit of shareholders.

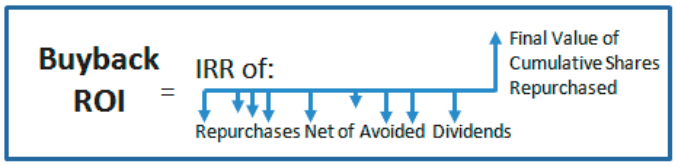
The third benefit is that manager's who ultimately pursue buyback programs may do so with better timing. Too often, companies repurchase the most shares at the peak of the market cycle because they are cash rich. Consider that when the stock market peaked in 2007, the members of the S&P 500 repurchased well over half a trillion dollars worth of their own shares. In 2009 when the market bottomed over 50% lower, buybacks were down over 75%. Companies often would be better off waiting so that they can buy their shares at a discount or prepare themselves by building financing capacity for other opportunities like potentially inexpensive acquisitions. Like investors, management teams should try to time their buybacks so that they outperform the general movement of their stock price. Doing so, will not only create or preserve value for shareholders, but will also legitimize the potential signaling effects of management's buybacks.

These three benefits will be greatest if management continually tracks and makes publically available buyback performance. This will maximize accountability.

How The Measurements Are Calculated

The three important calculations for measuring the return of buybacks are Buyback ROI, Buyback Strategy, and Buyback Effectiveness. The core measurement, **Buyback ROI**, measures the overall rate of return of buybacks. To determine Buyback ROI, we calculate the Internal Rate of Return (IRR) of the cash flows associated with buybacks. As shown in Figure 1, these cash flows include the cash outflows associated with the share repurchases, the cash "inflows" of avoided dividends, and a final cash "inflow" representing the final value of the accumulated number of shares repurchased.

Figure 1



Externally, our analysis is done quarterly using quarterly average share prices so we net any repurchases and their avoided dividends in the last period.

Buyback Strategy tracks the performance of the underlying stock in terms of annualized total shareholder return (TSR). It is generally desirable to buy back shares in the face of a rising share price and vice versa, so Buyback Strategy measures the extent to which the Buyback ROI is driven by the stock's general movement over the period. A Compound Annual Growth Rate (CAGR) and quarterly average closing share prices adjusted for dividends are used for this

calculation.

Once we have determined Buyback ROI and Buyback Strategy, **Buyback Effectiveness** can then be calculated as simply the difference between the two, determined as compounded returns as shown in Figure 2. This measure evaluates the timing of a company's repurchases. A positive Buyback Effectiveness – when a Buyback ROI is higher than the corresponding Buyback Strategy – implies that the company generally bought back its shares when they were priced relatively low versus the trend in the share price.

Figure 2

$$\text{Buyback Effectiveness} = \frac{1 + \text{Buyback ROI}}{1 + \text{Buyback Strategy}} - 1$$

It is important to note that a company will be able to calculate Buyback ROI more precisely than outsiders because it will know the exact number of shares repurchased in any particular period. Outsiders are only privy to quarterly results and, consequently, quarterly estimates of shares repurchased are necessary to calculate the cumulative number of shares repurchased over a period. For each quarter, we suggest dividing the dollar amount spent on buybacks by the average share price to estimate the number of shares repurchased.

The following is a set of more detailed calculation steps for the three metrics, followed by a complete example:

1. Collect the data required for the calculations. For each quarter, this includes average close share price, average adjusted close share price (normalized for dividends, splits, etc.), dividends issued per share, and the dollars of shares repurchased (see lines 1, 2, 3, & 10 in figure 3).

2. Estimate the number of shares repurchased each quarter by dividing the dollars of shares repurchased by the average close share price (see line 4 in figure 3).

3. Calculate the cumulative number of estimated shares repurchased for each quarter by adding the estimated shares repurchased for all quarters prior to and including the relevant quarter (see line 5 in figure 3).

4. Estimate the dividends avoided as a result of the buybacks. For each quarter, this involves multiplying the cumulative shares repurchased by the dividends per share (see line 6 in figure 3). Note that the dividends avoided calculations depend on one's assumptions. For example, the calculations above and those demonstrated in figure 3 assume that dividend distributions are always performed after repurchases in any given quarter. Other assumptions are conceivable.

5. Calculate the final buyback value by multiplying the cumulative shares repurchased and the average close share price (see line 7 in figure 3).

6. Calculate each quarter's Buyback ROI Cash Stream. This involves adding the dollars of shares repurchased and the estimated dividends avoided in each quarter, as well as including the final buyback value in the last quarter (see line 8 in figure 3).

7. Calculate Buyback ROI using an Internal Rate of Return on the Buyback ROI Cash Stream (see line 9 in figure 3).

8. Calculate Buyback Strategy using a compound annual growth rate (CAGR) of the average adjusted close share price (see lines 10 and 11 in figure 3). Note that we suggest using the prior to first quarter average adjusted close share price as the starting value, for consistency with the Buyback ROI calculation.

9. Calculate Buyback Effectiveness by taking the difference between Buyback ROI and Strategy (see line 12 in figure 3).

Figure 3

Example of Hypothetical Company

	Metric	Q2 '10	Q3 '10	Q4 '10	Q1 '11	Q2 '11	Q3 '11	Q4 '11	Q1 '12	Q2 '12
1.	Avg. Close Share Price		$20	$21	$19	$20	$18	$23	$25	$29
2.	Dividends		$0.20	$0.20	$0.20	$0.20	$0.30	$0.30	$0.30	$0.30
3.	$ of Buybacks (MM)		$1,000	$900	$800	$1,000	$2,000	$2,500	$2,000	$2,000
4.	Estimated Shares Repurchased (MM) (Line 3 / Line 1)		50	43	42	50	111	109	80	69
5.	Cumulative Shares Repurchased (MM) (Cumulation of Ln 4)		50	93	135	185	296	405	485	554
6.	Dividends Avoided (MM) (Line 2 x Line 5)		$10	$19	$27	$37	$89	$121	$145	$166
7.	Final Buyback Value (MM) (Last Line 5 x Last Line 1)									$16,058
8.	Buyback ROI Cash Stream (MM) (Line 7 + Line 6 - Line 3)		($990)	($881)	($773)	($963)	($1,911)	($2,379)	($1,855)	$14,224

Buyback ROI Calculation Range

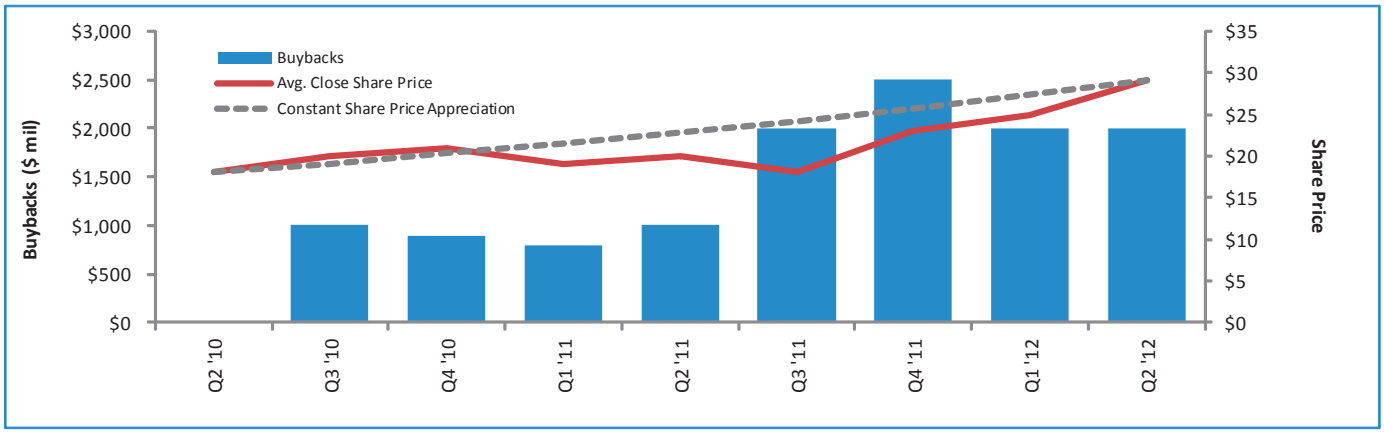
9. IRR Calculation: (1+IRR(Line 8))^(4) -1 ---> **Buyback ROI: 53.6%**

10.	Avg. Adjusted Close Share Price	$16.31								$29.00

Buyback Strategy Calculation Range

11. CAGR Calculation: ($29.00/$16.31)^(4/8) -1 ---> **Buyback Strategy: 33.3%**

12. Difference Calculation: (1+53.6%)/(1+33.3%) -1 ---> **Buyback Effectiveness: 15.2%**



Buyback ROI is driven by both buying shares while the share price is increasing (Buyback Strategy) and timing those buybacks when they are below trend (Buyback Effectiveness).

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