

Thoughts on Dividends and Buybacks

Clearing Up Some Common Misconceptions

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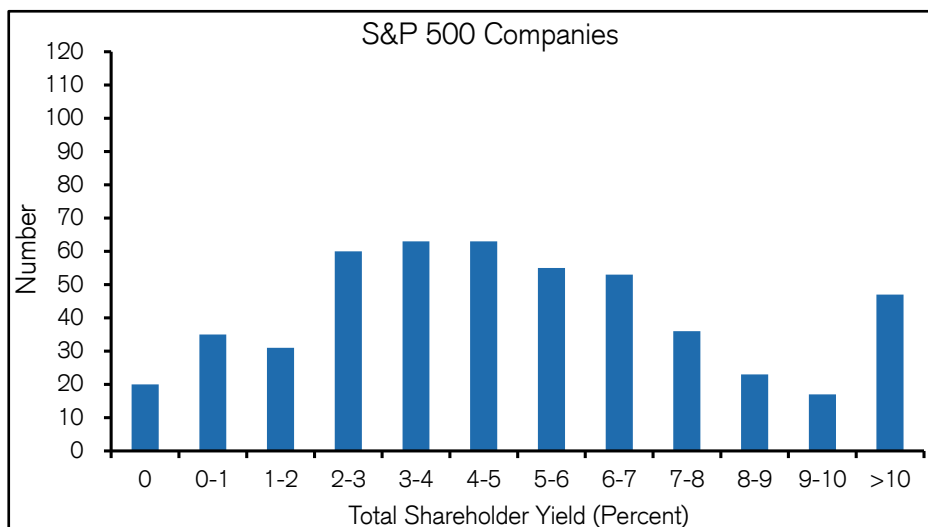
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Source: FactSet and Credit Suisse.

“Our study provides theoretical and empirical evidence for a total payout (dividends plus buybacks) model of stock returns.”

Philip U. Straehl and Roger G. Ibbotson¹

- The conventional wisdom that dividends make a crucial contribution to accumulated capital over time is wrong.
- Very few investors actually earn the total shareholder return because it demands that they fully reinvest all dividends.
- You commonly hear complaints that companies buy back stock at prices that are too high and thus “destroy shareholder value” or “waste money.” This is a simplistic assessment that confuses two issues.
- There is a value conservation principle associated with buybacks. The value of a firm declines by the amount of capital it disburses. Buying back shares that are over- or undervalued creates offsetting winners and losers.
- If you own the shares of a company buying back stock, doing nothing is doing something. That something is increasing your percentage ownership.

Introduction

The value of a company is determined by the cash that it pays to its owners over its life. A firm can return capital to shareholders through dividends, share buybacks, or by selling the company for cash. Ultimately, value boils down to cash in the pocket. Empirical evidence supports the theory.

Companies in a position to pay a dividend or to buy back stock have to weigh those alternatives against investing the money back into the business. The idea is that an attractive internal investment will allow the company to return even more money in the future, adjusted for risk and inflation, and will therefore enrich current investors. Most investors agree on these points. Appendix A examines the concern that companies today are underinvesting in their businesses.

The relative merits of dividends, buybacks, and investment are contentious. Share buybacks, in particular, seem to stir emotion, much of it negative.² The purpose of this report is to address a handful of misconceptions:

- Dividends are the major contributor to capital accumulation over time;
- Buybacks destroy value or waste money;
- Shareholders can be passive with regard to share buyback policy.

Price Appreciation and Dividends

Investment managers and pundits often make the claim that dividends are the primary source of total shareholder return over the long haul.³ But it is crucial to distinguish between the equity rate of return for one year, which is simply the change in the stock price plus the dividend, and the capital accumulation rate, or total shareholder return (TSR) over time. The central difference is that total shareholder return incorporates the reinvestment of dividends. As a result, these are very distinct concepts.⁴

For example, a stock that has price appreciation (g) of 7 percent with a dividend yield (d) of 3 percent in a given year has an equity rate of return of 10 percent. But if the g and d remain constant over time, the total shareholder return is 10.21 percent, based on this formula:

$$\text{Total shareholder return} = g + (1 + g)d$$

Once you appreciate this distinction, you can see that “price appreciation is the *sole* source of *investment* returns that increase accumulated capital.”⁵ This quotation comes from Alfred Rappaport, a professor emeritus at the Kellogg School of Management at Northwestern University, and it surprises even experienced investors. The conventional wisdom is that the income component makes a crucial contribution to accumulated capital and that its contribution grows over time. This is wrong.

To see why, let’s slow things down and again distinguish between the equity rate of return and total shareholder return. We’ll use a \$100 stock and the same g of 7 percent and d of 3 percent.

If you consider results for one year, it is pretty simple. You start with an investment of \$100 and end the year with a stock worth \$107 and \$3 in cash. You begin with \$100 and end with \$110 for a 10 percent return. So far, so good.

Now let's go to the total shareholder return case. The TSR calculation makes the crucial assumption that 100 percent of dividends are reinvested in the stock. So if at the end of the year you have a \$107 stock and a \$3 dividend, you use the cash dividend to buy more stock, getting your investment in the stock back up to \$110. Once you make the decision to reinvest all of your dividends, it becomes clear that capital accumulation depends entirely on the price change over the time you invest.

The key to understanding TSR is that it is a measure over multiple periods. In year two, the stock rises to \$117.70 and the dividend is \$3.30, yielding a total value of \$121. The dividend is again reinvested in the stock, meaning that you have \$121 in stock at the end of two periods. The process repeats.

Very few investors actually earn the TSR because it demands that they fully reinvest all dividends. In reality, many investors choose to spend their dividends. This has utility for those investors, of course, but prevents them from earning the TSR.

Further, because the government taxes dividends, investors in a taxable account cannot reinvest the full amount of their dividends. For companies that pay a dividend, only investors who reinvest 100 percent of their dividends in a tax-free account actually realize the TSR. This is a very small percentage of the investing population. Indeed, the value of the stock market rises at a lower rate than the market's TSR as investors and governments extract value along the way.⁶

Saving is the act of deferring current consumption in order to consume more in the future. Investors save to fund retirement, pay for education, or to ensure that an institution such as a university can thrive in the future. In each case, the investor cares about capital accumulation.

For equities, price appreciation is the only source of investment return that increases accumulated capital. The reason is that an investor makes an investment decision to reinvest the dividend into the stock. Say you own a stock that trades at \$100 and declares a \$3 dividend. The day the dividend is paid, you have a stock worth \$97 and cash of \$3.⁷ You must put the \$3 back into the stock to earn the total shareholder return.

The Value Conservation Principle

You commonly hear complaints that companies buy back stock at prices that are too high and thus "destroy shareholder value" or "waste money."⁸ This is a simplistic assessment that confuses two issues.

The first issue is what happens to the value of a firm when it pays out capital. Say a company is worth \$1,000 and it chooses to pay out \$200 to its shareholders. It should be obvious that the value of the firm following the disbursement is \$800. Indeed, it doesn't matter whether the company pays a dividend, buys back stock, or donates the \$200 to a charity. The value of the firm adjusts accordingly.

The second issue is the plight of the ongoing versus selling shareholders. If a company buys back stock that is overvalued, the sellers benefit at the expense of the continuing shareholders. If a company buys back stock that is undervalued, the ongoing shareholders benefit at the expense of the selling shareholders. All shareholders are treated the same if a company pays a dividend or buys back stock at fair value.

The important point is that there is a value conservation principle: the winners and the losers offset one another.⁹ It is true that ongoing shareholders suffer if a company buys back stock at \$50 per share and it subsequently drops to \$30. But you can't forget that the sellers at \$50 made out well.

Here is another point to consider if you are a fan of dividends. If you agree that buying back undervalued shares adds value for ongoing shareholders and you believe your portfolio contains undervalued stocks, why would you ever want one of your holdings to pay a dividend? As Warren Buffett, chairman and chief executive officer of Berkshire Hathaway, has written, "Indeed, disciplined repurchases are the *surest* way to use funds intelligently: It's hard to go wrong when you're buying dollar bills for 80¢ or less."¹⁰

Doing Nothing Is Doing Something

Imagine you were a shareholder of a company that paid a dividend when the stock was at \$50 and then it subsequently dropped to \$30. Would you have any complaints about the dividend? Now imagine that you were a shareholder of a company that repurchased shares at \$50 (you did not sell) and then the stock slumped to \$30. How would you feel?

Chances are you would not have any complaints about the dividend. Indeed, the dividend you received might soften the psychological blow of the steep price decline.¹¹ But you would likely be irritated by the inopportune buyback. This is despite the fact that you own the stock because you found it attractive at a higher price.

If you rewind the situation with the buyback, it is easy to see that you could have sold a prorated number of shares that would have resulted in a homemade dividend and the same percentage ownership in the company. This leads to an important point: if you own the shares of a company buying back stock, doing nothing is doing something. That something is increasing your percentage ownership in the company.

Some of the misgiving about buybacks is well placed, as companies pursue them with multiple motivations. The fair value school takes a steady and consistent approach to buybacks. The intrinsic value school seeks to buy back shares only when management deems them to be undervalued. But perhaps the largest group is the impure motives school, which seeks to boost accounting numbers or offset dilution from compensation plans.¹² Research shows that there is no correlation between share repurchase intensity, measured as the difference between the growth in net income and earnings per share, and TSR.¹³

Investors must be diligent in assessing management's motivation for its buyback program and need to recognize the consequences of inactivity when companies do buy back shares.

Conclusion

The value of a business is the present value of future cash flow disbursed to the owners. Appendix B summarizes the details of buybacks and dividends for the S&P 500 Index in 2015 and shows the long-term trends in spending. The primary mechanisms to return cash to shareholders are dividends and share buybacks. Yet there is a great deal of muddled thinking about the role that dividends and buybacks play in building wealth.

In spite of claims that dividends contribute substantially to long-term TSR, price appreciation is the only source of investment return that increases accumulated capital. The key is to recognize that TSR is a multi-period measure that assumes dividends are fully reinvested in the stock. Because investors commonly use dividends to consume and dividends are frequently taxable, a small minority of shareholders earn the TSR.

There is a value conservation principle associated with buybacks. The value of a firm declines by the amount of capital it disburses. Buying back shares that are over- or undervalued creates offsetting winners and losers.

Only if a stock is at fair value, a nebulous concept itself, do buybacks and dividends have the same impact on all shareholders (leaving aside tax issues).

Companies buy back stock for a host of reasons, and not all of the motivations are economically sound. Shareholders must assess management's reasoning for buybacks. Finally, if you own the shares of a company buying back stock, doing nothing is doing something. You are increasing your stake in the business and foregoing the opportunity to create homemade dividends.

Appendix A: The Perils of Asset Growth (or Why Paying Out Capital Is Good)

One of today's concerns is that companies are paying out too much to investors, whether in the form of dividends or buybacks.¹⁴ Companies must find an appropriate balance between investing in the business and returning cash to shareholders. The extremely low interest rates that prevail today make financial engineering very attractive, as increases in earnings per share are sure, immediate, and easy to calculate.

But on one point the empirical evidence is quite clear: companies that have rapid asset growth have lower risk-adjusted TSRs than companies with slow asset growth. Finance scholars studied the topic and conclude, "The findings suggest that corporate events associated with asset expansion (i.e., acquisitions, public equity offerings, public debt offerings, and bank loan initiations) tend to be followed by periods of abnormally low returns, whereas events associated with asset contraction (i.e., spinoffs, share repurchases, debt prepayments, and dividend initiations) tend to be followed by periods of abnormally high returns."¹⁵ This also applies to 40 markets outside the U.S.¹⁶

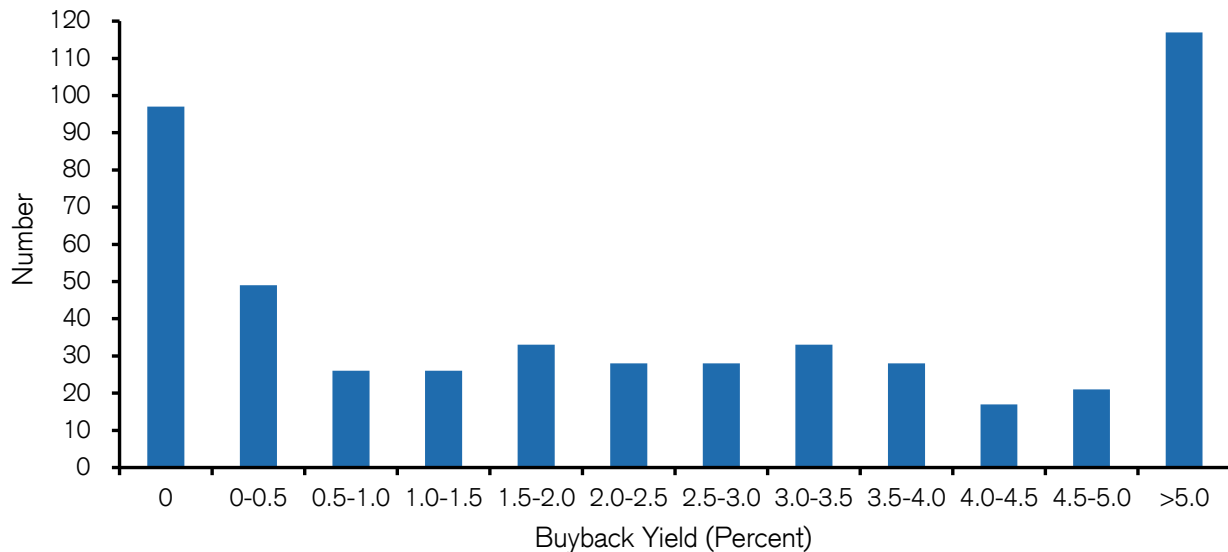
There are a couple of theories that may explain this finding. One is that investors underestimate the degree of empire building. As earnings releases reveal that returns on investment are below expectations, the TSRs for companies with high asset growth are relatively poor.¹⁷

Another theory is that companies pay less attention to their prospective return on investment and more to the perceived cost of capital.¹⁸ Companies invest more when they perceive that the cost of capital is low and less when they perceive it is high. Assuming that the return on investment is relatively stable, this theory predicts that asset expansion leads to subpar TSRs.

Appendix B: Recent Trends in Dividends and Buybacks

The average buyback yield, defined as gross share buybacks divided by average market capitalization, was 3.2 percent for the S&P 500 Index in 2015. Companies in the index spent \$572 billion on buybacks. Exhibit 1 shows the breakdown. Fewer than 20 percent of the companies repurchased no shares at all and just over 20 percent had a buyback yield in excess of 5 percent. The distribution is bimodal.

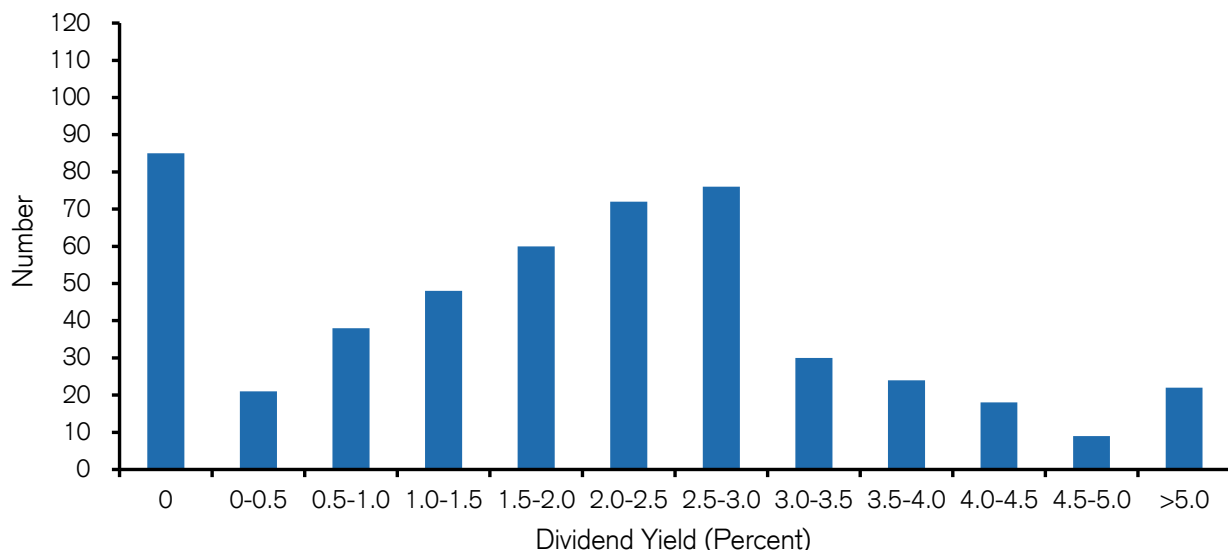
Exhibit 1: Breakdown of Buyback Yield for the S&P 500 (2015)



Source: FactSet and Credit Suisse.

Exhibit 2 shows the breakdown of dividend yields. The dividend yield for the S&P 500 was 2.1 percent in 2015. Companies spent \$382 billion on dividends. Roughly 15 percent of companies in the S&P 500 Index paid no dividend and the modal yield for companies issuing dividends was 2.5 to 3.0 percent.

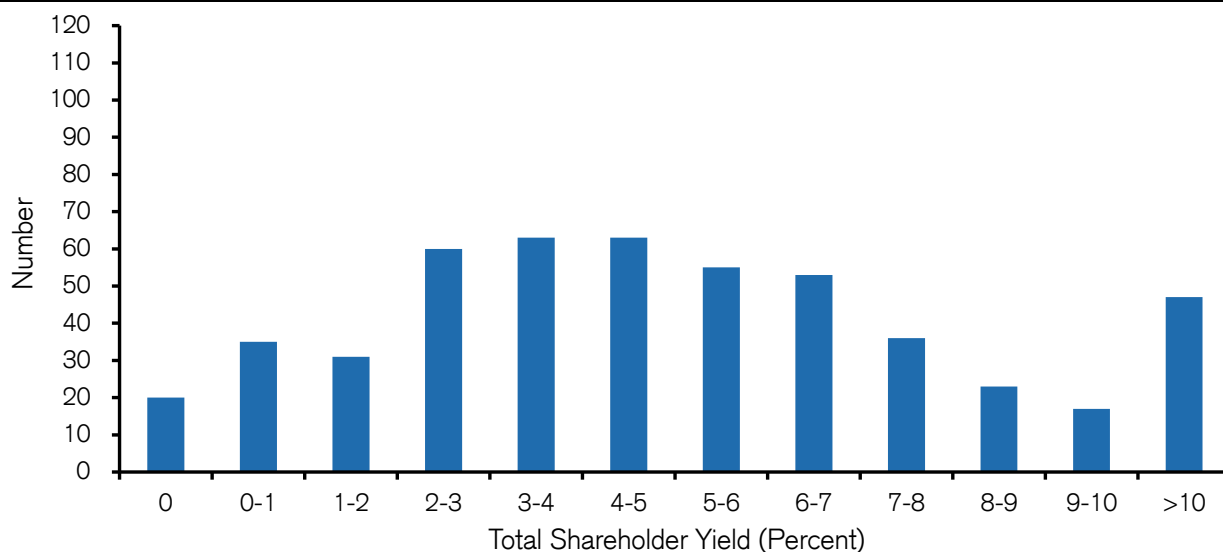
Exhibit 2: Breakdown of Dividend Yield for the S&P 500 (2015)



Source: FactSet and Credit Suisse.

Exhibit 3 combines the first two exhibits to show total shareholder yield, defined as gross buybacks plus dividends divided by average market capitalization. The combined payout was just under \$1 trillion. Of the 500 companies in the index, only 20 companies have no yield at all and the modal yield is in the range of 3-5 percent. Finally, nearly 50 companies in the S&P 500 delivered a total shareholder yield in excess of 10 percent.

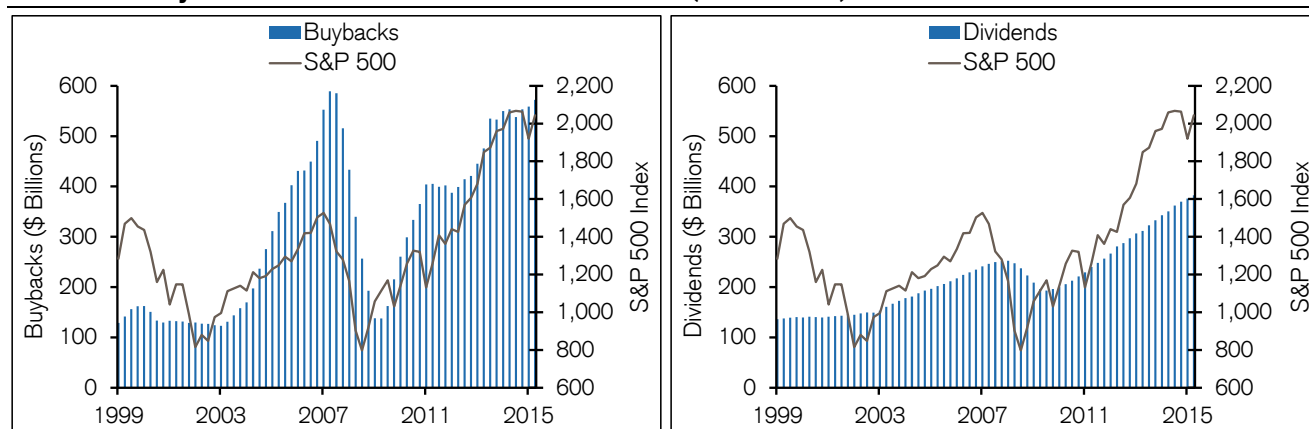
Exhibit 3: Breakdown of Total Shareholder Yield for the S&P 500 (2015)



Source: FactSet and Credit Suisse.

Exhibit 4 shows the long-term trend for gross share buybacks and dividend payments as well as the price of the S&P 500 Index. For nine of the past ten years, buybacks have exceeded dividends in volume. The exception was 2009, as companies curtailed buybacks during and immediately following the Great Recession.

Exhibit 4: Buybacks and Dividends for the S&P 500 (1999-2015)



Source: S&P Dow Jones and Credit Suisse.

The exhibit also reveals that dividends are much less cyclical than buybacks. Notwithstanding that dividends and buybacks are identical under idealized circumstances, executives view them very differently.¹⁹ Managements tend to view a dividend as a quasi-contract that has a priority similar to capital expenditures and research and development investment. A buyback is viewed as a means to deploy residual cash after the company has met all other obligations and investment needs.

Exhibit 5 shows dividend and buyback data, as well as the total shareholder yield, for the S&P 500 Index back to 1982. The total yield was in excess of 5 percent in 2015, which compares favorably to the U.S. 10-year Treasury note yield of around 2 percent. The net total shareholder yield is somewhat lower than five percent because of equity issuance, but remains well above the yield of the 10-year note.

Exhibit 5: Dividends, Buybacks, and Total Shareholder Yield for the S&P 500 (1982-2015)

	S&P 500		Dividends +		S&P 500	S&P 500	Dividend	Buyback	Total
	Price	Dividends	Buybacks	Buybacks	Market Value	Average Market Value	Yield	Yield	Shareholder Yield
1981					863				
1982	141	47	8	55	1,015	939	5.0%	0.8%	5.8%
1983	165	50	8	58	1,220	1,118	4.5%	0.7%	5.1%
1984	167	53	27	80	1,217	1,219	4.3%	2.2%	6.6%
1985	211	55	40	95	1,500	1,359	4.0%	2.9%	7.0%
1986	242	63	37	100	1,710	1,605	3.9%	2.3%	6.2%
1987	247	65	45	110	1,736	1,723	3.8%	2.6%	6.4%
1988	278	83	46	129	1,897	1,816	4.6%	2.5%	7.1%
1989	353	73	42	115	2,367	2,132	3.4%	2.0%	5.4%
1990	330	81	39	120	2,195	2,281	3.6%	1.7%	5.3%
1991	417	82	22	104	2,824	2,509	3.3%	0.9%	4.1%
1992	436	85	27	112	3,015	2,919	2.9%	0.9%	3.8%
1993	466	87	34	121	3,306	3,160	2.8%	1.1%	3.8%
1994	459	88	40	128	3,346	3,326	2.6%	1.2%	3.8%
1995	616	103	67	170	4,588	3,967	2.6%	1.7%	4.3%
1996	741	101	82	183	5,626	5,107	2.0%	1.6%	3.6%
1997	970	108	119	227	7,555	6,590	1.6%	1.8%	3.4%
1998	1,229	116	146	262	9,942	8,749	1.3%	1.7%	3.0%
1999	1,469	138	141	279	12,315	11,129	1.2%	1.3%	2.5%
2000	1,160	141	151	292	11,715	12,015	1.2%	1.3%	2.4%
2001	1,147	142	132	274	10,463	11,089	1.3%	1.2%	2.5%
2002	848	148	127	275	8,107	9,285	1.6%	1.4%	3.0%
2003	1,126	161	131	292	10,286	9,197	1.7%	1.4%	3.2%
2004	1,212	181	197	378	11,289	10,788	1.7%	1.8%	3.5%
2005	1,248	202	349	551	11,255	11,272	1.8%	3.1%	4.9%
2006	1,418	224	432	656	12,729	11,992	1.9%	3.6%	5.5%
2007	1,468	246	589	836	12,868	12,799	1.9%	4.6%	6.5%
2008	903	247	340	587	7,852	10,360	2.4%	3.3%	5.7%
2009	1,115	196	138	333	9,928	8,890	2.2%	1.5%	3.7%
2010	1,258	206	299	505	11,430	10,679	1.9%	2.8%	4.7%
2011	1,258	240	405	645	11,385	11,408	2.1%	3.6%	5.7%
2012	1,426	281	399	680	12,742	12,064	2.3%	3.3%	5.6%
2013	1,848	312	476	787	16,495	14,619	2.1%	3.3%	5.4%
2014	2,059	350	553	904	18,245	17,370	2.0%	3.2%	5.2%
2015	2,044	382	572	955	17,900	18,072	2.1%	3.2%	5.3%
Average							2.6%	2.1%	4.7%

Source: Nellie Liang and Steven A. Sharpe, "Share Repurchases and Employee Stock Options and their Implications for S&P 500 Share Retirements and Expected Returns," Board of Governors of the Federal Reserve System Finance and Economics Working Paper No. 99-59, November 1999, S&P Dow Jones Indices, Thomson Reuters Datastream, and Credit Suisse estimates.

Note: All monetary amounts in billions U.S. dollars.

Endnotes

¹ Philip U. Straehl and Roger G. Ibbotson, "The Supply of Stock Returns: Adding Back Buybacks," *Working Paper*, December 17, 2015.

² For example, see Barry Ritholtz, "Take Dividends Over Buybacks," *Bloomberg*, April 11, 2016; William Lazonick, "Profits Without Prosperity," *Harvard Business Review*, September 2014, 54-55; and Gretchen Morgenson, "In Yahoo, Another Example of the Buyback Mirage," *New York Times*, March 25, 2016.

³ See, for instance Robert D. Arnott and Peter L. Bernstein, "What Risk Premium Is 'Normal'?" *Financial Analysts Journal*, Vol. 58, No. 2, March/April 2002, 64-85; Richard Skaggs, "Dividends: A Timeless Component of Equity Return," *Advisor Perspectives*, April 18, 2012; Aye M. Soe, "Dividend Investing and A Look Inside the S&P 500 Dow Jones Dividend Indices," *S&P Dow Jones Indices*, April 2013; Rupert Hargreaves, "Dividend Income Accounts for 60% of Equity Returns," *ValueWalk*, February 23, 2016.

⁴ This distinction has a direct analog in money management. If you seek to maximize value over one period, the proper method is to find the highest *arithmetic* return. This is where mean-variance maximization is appropriate. If you are parlaying your capital so that your investment sum at the end of one period becomes the starting sum of the next, you want to consider *geometric* mean maximization. See Javier Estrada, "Geometric Mean Maximization: An Overlooked Portfolio Approach?" *Journal of Investing*, Vol. 19, No. 4, Winter 2010, 134-147. For a less technical discussion, see William Poundstone, *Fortune's Formula: The Untold Story of the Scientific Betting System that Beat the Casinos and Wall Street* (New York: Hill and Wang, 2005), 197-201.

⁵ Alfred Rappaport, "Dividend Reinvestment, Price Appreciation and Capital Accumulation," *Journal of Portfolio Management*, Vol. 32, No. 3, Spring 2006, 119-123.

⁶ Jeremy J. Siegel, *Stocks for the Long Run: The Definitive Guide to Financial Market Returns and Long-Term Investment Strategies, Fifth Edition* (Hoboken, NJ: John Wiley & Sons, 2014), 76.

⁷ As an empirical matter, the stock price doesn't go down by the exact amount of the dividend because of the impact of taxes. The basic equation to determine how much a stock will drop when it goes ex-dividend is as follows:

$$\frac{P_b - P_a}{D} = \frac{(1 - t_d)}{(1 - t_{cg})}$$

Where P_b is the stock price before the ex-dividend date, P_a is the price after the ex-dividend date, t_d is the tax rate on dividend income, and t_{cg} is the tax rate on capital gains. So if the tax rates on dividends and capital gains are the same (as they are today), then the decline in the stock price is roughly equivalent to the dividend. If the tax rate on dividends is higher than that on capital gains, which has been true for most of the last half century, then the decline in stock price will be less than the dividend. See Aswath Damodaran, "Returning Cash to the Owners: Dividend Policy," available at <http://pages.stern.nyu.edu/~adamodar/pdfiles/ovhds/ch10.pdf>.

⁸ For example, see David Trainer, "How Stock Buybacks Destroy Shareholder Value," *Forbes*, February 24, 2016, and Ritholtz (2016).

⁹ See exhibit 8 in Michael J. Mauboussin and Dan Callahan, "Disbursing Cash to Shareholders: Frequently Asked Questions about Buybacks and Dividends," *Credit Suisse Global Financial Strategies*, May 6, 2014.

¹⁰ Warren E. Buffett, "Letter to Shareholders," *Berkshire Hathaway Annual Report*, 2012. See www.berkshirehathaway.com/letters/2012ltr.pdf.

¹¹ Individual investors commonly use dividends in their mental accounting. See Hersh M. Shefrin and Meir Statman, "Explaining Investor Preference for Cash Dividends," *Journal of Financial Economics*, Vol. 13, No. 2, June 1984, 253-282.

¹² Konan Chan, David L. Ikenberry, Inmoo Lee, and Yanzhi Wang, "Share Repurchase as a Potential Tool to Mislead Investors," *Journal of Corporate Finance*, Vol. 16, No. 2, April 2010, 137-158. Also, Heitor Almeida,

Vyacheslav Fos, and Mathias Kronlund, "The Real Effects of Share Repurchases," *Journal of Financial Economics*, Vol. 119, No. 1, January 2016, 168-185.

¹³ Obi Ezekoye, Tim Koller, and Ankit Mittal, "How Share Repurchases Boost Earnings Without Improving Returns," *McKinsey Article*, April 2016.

¹⁴ For example, see the letter from Larry Fink, chief executive officer of BlackRock, to corporate leaders dated February 1, 2016. He writes: "We certainly support returning excess cash to shareholders, but not at the expense of value-creating investment." See www.blackrock.com/corporate/en-in/literature/press-release/ldf-corp-gov-2016.pdf.

¹⁵ Michael J. Cooper, Huseyin Gulen, and Michael J. Schill, "Asset Growth and the Cross-Section of Stock Returns," *Journal of Finance*, Vol. 63, No. 4, August 2008, 1609-1651.

¹⁶ Akiko Watanabe, Yan Xu, Tong Yao, and Tong Yu, "The Asset Growth Effect: Insights for International Equity Markets," *Journal of Financial Economics*, Vol. 108, No. 2, May 2013, 259-263.

¹⁷ Sheridan Titman, K. C. John Wei, Feixue Xie, "Capital Investments and Stock Returns," *Journal of Financial and Quantitative Analysis*, Vol. 39, No. 4, December 2004, 677-700.

¹⁸ Yuhang Xing, "Interpreting the Value Effect Through Q-Theory: An Empirical Investigation," *Review of Financial Studies*, Vol. 21, No. 4, July 2008, 1767-1795.

¹⁹ Alon Brav, John R. Graham, Campbell R. Harvey, and Roni Michaely, "Payout Policy in the 21st Century," *Journal of Financial Economics*, Vol. 77, No. 3, September 2005, 483-527.

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