

*Journal of***APPLIED CORPORATE FINANCE**

A MORGAN STANLEY PUBLICATION

In This Issue: Growth, Value, and Payout Policy

Is Economic Growth Good for Investors?	8	<i>Jay R. Ritter, University of Florida</i>
Blinded by Growth	19	<i>Javier Estrada, IESE Business School</i>
Valuation with Market Multiples: How to Avoid Pitfalls When Identifying and Using Comparable Companies	26	<i>Robert W. Holthausen, University of Pennsylvania and Mark E. Zmijewski, The University of Chicago</i>
Excess Cash and Shareholder Payout Strategies	39	<i>Niso Abuaf, Pace University and Ramirez & Co., Inc.</i>
Toward Real-Time Financial Reporting: How to Reduce Investors' Information Gap and the Cost of Capital	55	<i>U. Mark Schneider, CEO, Fresenius Group</i>
Pitfalls in Levering and Unlevering Beta and Cost of Capital Estimates in DCF Valuations	60	<i>Robert W. Holthausen, University of Pennsylvania, and Mark E. Zmijewski, The University of Chicago</i>
An Entrepreneur's Guide to Understanding the Cost of Venture Capital	75	<i>V. Ravi Anshuman, Indian Institute of Management Bangalore; John Martin, Baylor University; and Sheridan Titman, University of Texas at Austin</i>
Corporate Governance and the Cost of Capital: Evidence from Australian Companies	84	<i>Peter Kien Pham, Jo-Ann Suchard, and Jason Zein, University of New South Wales</i>
Assessing Project Risk	91	<i>Antonio E. Bernardo and Bhagwan Chowdhry, UCLA Anderson School of Management, and Amit Goyal, Swiss Finance Institute at University of Lausanne</i>
The Terminal Value and Inflation Controversy	101	<i>Daniel Kiechle and Niklas Lampenius, University of Hohenheim</i>

Excess Cash and Shareholder Payout Strategies

by Niso Abuaf, Pace University and Ramirez & Co., Inc.¹

According to conventional wisdom, the most likely payers of dividends are large, “mature” companies whose operations generate far more cash flow than they can profitably reinvest in their core businesses. That description applies to many so-called “value” companies—companies that are generally identified by their relatively low growth rates and P/E multiples. But in recent years, the ranks of high-dividend-paying companies have expanded to include a number of high-tech giants such as Microsoft (MSFT), IBM, and, most recently, Apple—companies that, at least until fairly recently, have all been viewed as “growth” companies.

And it’s not just tech companies. As reported in a recent issue of *CFO* magazine:

*Cash-rich companies are paying dividends to shareholders again, in a big way. Dividends fell out of favor relative to buybacks during the past three decades, but now, following the recession, issuers are raising their common dividends and declaring new ones. Even special dividends are being paid out, with such companies as Sara Lee, Boise, and Diamond Offshore Drilling taking opportunities to return a portion of their free cash flow or one-time gains to stockholders.*²

And as the article goes on to note, in 2011 some 429 U.S. non-financial companies increased their common dividend, and “by a market-cap-weighted average of 21.5%.”

Why this resurgence of dividends now? And what would finance theorists have to say about it?

At first glance, the answer is perhaps not much. According to the famous Modigliani and Miller (M&M), propositions published in the late 1950s and early ’60s, dividends should be largely a matter of indifference to shareholders. In the economist’s frictionless dream world that M&M asked us to imagine—one where companies and their investors are not troubled by taxes or transaction costs, bankruptcy or financial distress costs, or information or agency problems—in that world of “perfect capital markets,” a company’s enterprise value (the value of its net debt plus equity) is supposed to be determined

solely by its business strategy and the operating (pre-interest) cash flows that are expected to be generated by its assets. Under these assumptions, management’s choices of financial policies such as the amount of debt in the capital structure, and whether to pay out or retain and reinvest cash flows, are largely irrelevant—little more than different ways of “repackaging” the firm’s operating cash flows and returning them to investors either in the form of interest and principal, or of dividends or (a roughly equivalent amount of) stock buybacks/capital gains.³

Then, almost 20 years after the publication of the M&M propositions, Fischer Black published an article called “The Dividend Puzzle” in which he posed most of the same questions:

- “Why do corporations pay dividends? Why do investors pay attention to dividends? *Perhaps the answers to these questions are obvious.* ...Perhaps corporations pay dividends to reward existing shareholders and to encourage others to buy new issues of common stock at high prices.”

- “*Or perhaps the answers are not so obvious.* Perhaps a corporation that pays no dividends is demonstrating confidence that it has attractive investment opportunities that might be missed if it paid dividends.”

“In fact, I claim that the answers to these questions are not obvious at all. The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don’t fit together.”

But if Black, like M&M, failed to come up with definitive answers, the academic finance profession has made some progress over the years. In fact, as Miller himself wrote (in this journal) when revisiting the M&M propositions many years later,⁴ the key to understanding why a company’s capital structure and payout policies might matter to investors is to view some of the “imperfections” assumed away by M&M as major motives for these policies. Corporate income taxes, for example, might provide one important reason why companies might want to use lots of debt (because interest payments are tax-deductible). On the other hand, the costs of getting into financial trouble are clearly a good reason for some (though not all) companies

1. I would like to thank Bradley Seltzer and Konstantin Semyonov for invaluable research assistance.

2. Johnson, Sarah, 2012, “Show Us the Money,” *CFO Magazine*, (April).

3. Berk, J. and P. DeMarzo, 2011, *Corporate Finance*, Upper Saddle River, NJ, Prentice Hall.

4. Merton Miller, “The M&M Propositions Thirty Years Later,” *Journal of Applied Corporate Finance*, Vol. 2 No. 1 (Spring 1989).

to limit their use of debt—and perhaps dividend payments too. And high *personal* income taxes are another possibly important reason to limit dividends; that is, to the extent that dividends are taxed at higher rates than capital gains, as they were before 2003 (and may well again be soon), companies may decide to cut back on dividends—and perhaps use their excess cash to buy back shares instead.⁵

As this last statement suggests, stock buybacks are an alternative way of returning capital to shareholders. Open market repurchase programs have been popular in the U.S. since the late 1980s, and in Europe since the late 1990s. Like announcements of dividend initiations and most large dividend increases, announcements of buyback programs generate positive market reactions, on average.⁶

Financial economists have offered two main explanations for such reactions. One focuses on what share repurchases suggest about management's information or beliefs about the future—namely, their conviction that their own shares are undervalued,⁷ based perhaps on their confidence about future earnings or cash flows.⁸ The second explanation concerns the expected effect of buybacks on management's decision-making; that is, by reducing or eliminating the firm's excess cash, buybacks effectively reduce management's natural tendency to spend such cash on negative-NPV projects such as diversifying acquisitions or mistaken attempts to maintain market share in declining businesses.⁹

In the pages that follow, I do not claim to have provided definitive answers to the questions posed by Fischer Black. On the other hand, I will suggest that the above two explanations have a lot to do with the market's responses to most changes in corporate payout policy, dividends as well as stock repurchases. Like most policies in finance and economics, corporate payout policies involve numerous considerations as well as historical accidents and precedents. And we may be able to learn a good deal from both anecdotes and some general data. In this spirit, the next section of this paper highlights a number of case studies from the technology sector of major changes of dividend and payout policy. Then, with the idea that the plural of "anecdote" is "data," the third section of the paper analyzes some fairly recent trends in dividends and buybacks with a bit more rigor. In the fourth and final section, I provide an analytical framework for corporate managers when thinking about decisions to pay out excess cash in the form of dividends or share buybacks.¹⁰

5. However, we should also point out that in the presence of both [high] corporate and personal taxes, the above statements may lose their force (see Berk and DeMarzo, 2011). Moreover, the incidence of a tax is one of the most difficult topics to investigate in economics as an investigator can never be too sure as to who bears a certain tax (depending on the relative elasticities of the supply and demand curves).

6. See, for example, Asquith and Mullins (1986), Netter and Mitchell (1989), Comment and Jarrell (1991), Singh, Zaman, and Krishnamurti (1994), Ikenberry, Lakonishok, and Vermaelen (1995), McNally (1999), and Kahle (2002).

Anecdotal Evidence

The Case of Apple

On 19 March 2012, Apple's CEO Tim Cook made the following announcement during a closely followed conference call:

Simply stated, we don't see ceilings to our opportunities. All of this innovation and success has led to the generation of substantial amounts of cash, both domestically and abroad. We have used some of our cash to make great investments in our business through increased research and development, acquisitions, new retail store openings, strategic prepayments and capital expenditures in our supply chain and building out of our infrastructure and you will see more of all of these in the future.

Subject to a Board declaration, we plan to initiate a quarterly dividend of \$2.65 per share beginning in the September quarter. A quarterly dividend will provide current income to our shareholders and we also believe it will broaden Apple's investor base by attracting new investors who don't currently own Apple stock.

Additionally, in the December quarter we plan to commence a share repurchase program. The Board has authorized a repurchase of \$10 billion of stock over the next three fiscal years with a primary objective of neutralizing dilution from future grants through Apple's employee equity programs.

During the same conference call, Apple's CFO Peter Oppenheimer noted that, in fiscal year 2011, the company's cash increased by \$31 billion (\$24 billion of which was produced by overseas operations). During the first quarter of fiscal 2012, the company generated another \$16 billion, giving it \$98 billion of cash (about \$64 billion of which was outside the U.S.). And as Oppenheimer went on to say:

That's plenty of cash to run the business. So we are announcing today a dividend and share repurchase program. In thinking about our cash, we want to achieve several objectives: First, we want to maintain the flexibility to take advantage of investment opportunities that present themselves. Second, we want to provide some current income for our long-term shareholders. Third, we want to increase the attractiveness of Apple to a wider investor base. And, finally we want to limit future dilution from our employee equity programs.

More specifically, Oppenheimer told investors to expect that, over the next three years, Apple would devote roughly

7. See Bhattacharya (1979), and Miller and Rock (1985).

8. See Bartov (1991), Comment and Jarrell (1991), and Lie (2005).

9. Jensen (1986), Jagannathan and Stephens (2003), Grullon and Michaely (2004), and Li and McNally (2007). Consistent with this explanation, Wang, Strong, Tung, and Lin (2009) document that the market's response to a share repurchase is especially favorable for firms with overinvestment problems as measured by low Tobin's Q ratios.

10. I believe that this analytical framework does provide a theoretical construct that would answer Fischer Black's dividend puzzle. Unfortunately, however, the puzzle still remains a challenge since practice is far more stochastic and multivariate than the theory might suggest. And this is where the rubber meets the asphalt.

\$45 billion of its domestic cash to three uses: dividends (more than \$10 billion a year's worth), share repurchases, and cash used to net-share-settle vesting Restricted Stock Units. As Oppenheimer also mentioned, "We want to maintain sufficient U.S. cash to be able to quickly take advantage of strategic opportunities that might present themselves. And we do not want to incur the tax cost to repatriate the foreign cash at this time."

The Case of Microsoft

History suggests that growth companies with a strong business model and share price outperformance can end up with too much cash and capital. Microsoft, for example, has had cash balances that have ranged from \$20 billion to \$60 billion (as contrasted with the S&P 500 median of less than \$1 billion). When a growth company's business model matures and its share price stops outperforming, investors represented either by equity analysts or activist hedge funds start demanding that companies lever up and start distributing capital.

And Microsoft provides a good illustration. In January 2003, the company declared its first dividend, albeit a small one, while also announcing a 2-for-1 stock split. Specifically, on January 16, the company announced a dividend of \$0.08 per year, which was equivalent to a 0.3% yield. When explaining this step to the market, John Connors, Microsoft's Chief Financial Officer, said the following:

Declaring a dividend demonstrates the board's confidence in the company's long-term growth opportunities and financial strength. We are especially pleased to be able to return profits to our shareholders, while maintaining our significant investment in research and development and satisfying our long-term capital requirements. We believe that the split, combined with an annual dividend, will make MSFT stock even more attractive to a broader range of investors. We see enormous potential for growth in the software and technology sector, and remain committed to attracting investors who share this enthusiasm and take a long-term view of the company's growth opportunities.

The market, however, was not prepared for at least this initial message of limits to growth, and the company's stock dropped by nearly 7% (market adjusted) on the announcement.

Later in the same year—on September 12, 2003—the company doubled its first dividend. On 20 July 2004, as a follow-up to its first two dividend announcements, Microsoft again doubled its regular annual dividend of \$0.16 per share to a quarterly dividend to \$0.08 per share (or an annual rate of \$0.32 a year), declared a "large" special dividend of \$3 per share, and at the same time announced a \$30 billion

share repurchase program.¹¹ In contrast to its reaction to the January 2003 announcement, Microsoft's stock price responded positively to the July 2004 announcement, experiencing a market-adjusted return of 3.88%.

In the words of Steve Ballmer, the company's CEO:

We are confident in our long-term ability to grow revenue, profits and shareholder value through our innovation and execution... We will continue to make major investments across all our businesses and maintain our position as a leading innovator in the industry, but we can now also provide up to \$75 billion in total value to shareholders over the next four years... As we looked at our cash-management choices, our priorities were to increase our regular payments to shareholders, increase our stock-buyback efforts given our confidence in the company's growth prospects, and distribute additional resources in the form of a special one-time dividend.

In an interview years after he retired in 2005,¹² John Connors, shed more light on these actions. When asked "What goes into the decision of a company to initiate a dividend?" Connors offered the following:

MSFT was in a unique position. The company had never paid a dividend and was facing shareholder pressure to do something with its \$60 billion cash buildup. The company considered five key questions in developing its distribution strategy:

(1) Can the company sustain payment of a cash dividend in perpetuity and increase the dividend over time? MSFT was confident it could meet that commitment and raise the dividend in the future.

(2) Is a cash dividend a better return to stockholders than a stock buyback program? These are capital structure decisions: Do we want to reduce our shares outstanding? Is our stock attractively priced for a buyback, or do we want to distribute the cash as a dividend? MSFT had plenty of capacity to issue a dividend and continue a buyback program.

(3) What is the tax effect of a cash dividend versus a buyback to the corporation and to shareholders? From a tax perspective to shareholders, it was largely a neutral decision in MSFT's case.

(4) What is the psychological impact on investors, and how does it fit the story of the stock for investors? This is a more qualitative factor. A regular ongoing dividend put MSFT on a path to becoming an attractive investment for income investors.

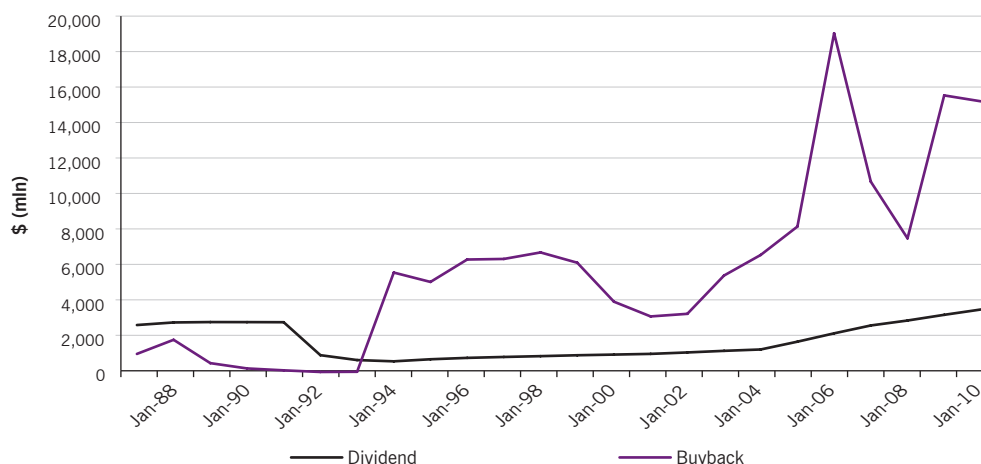
(5) What are the public relations implications of a dividend program? Investors don't look to MSFT to hold cash but to be a leader in software development and provide equity growth. So they viewed the dividend program favorably.

In response to the question, "How does a company decide whether to increase its dividend, have a special dividend, or

11. Given the company's high employee ownership, the company moved to protect employee stock options from the stock price decline due to the special dividend.

12. The interview was published in Berk and DeMarzo, (2011).

Figure 1 IBM's Dividend Yield and Share Buyback Policies



Source: Bloomberg

repurchase its stock to return capital to investors?," Connors said:

The decision to increase the dividend is a function of cash flow projections. Are you confident that you have adequate cash flow to sustain this and future increases? Once you increase the dividend, investors expect future increases as well. Some companies establish explicit criteria for dividend increases. In my experience as a CFO, the analytic framework involves a set of relative comparables. What are dividend payouts and dividend yields of the market in general and of your peer group, and where are we relative to them? We talk to significant investors and consider what is best for increasing shareholder value long-term.

A special dividend is a very efficient form of cash distribution that generally involves a nonrecurring situation, such as the sale of a business division or a cash award from a legal situation. Also, companies without a comprehensive distribution strategy use special dividends to reduce large cash accumulations. For MSFT, the 2004 special dividend and announcement of the stock dividend and stock buyback program resolved the issue of what to do with all the cash and clarified our direction going forward.

Microsoft's dividend and buyback programs continued well after Connors himself retired in 2005. In 2006, after completing its 2004 \$30 billion stock repurchase program, the company announced a \$40 billion stock repurchase program. And in 2008, after completing its 2006 share repurchase program, the company announced another \$40 billion stock repurchase program.

What has been the net effect of Microsoft's cash distribution programs? Here are a few observations:

- The bad news is that the company has signaled that it no longer sees material growth opportunities, and has resigned itself to middle age.

- The good news is that the company has signaled its commitment to efficient capital management by returning its excess capital to its owners, the stockholders.

- Though a thorough statistical exploration as to which story has been more important is beyond the scope of this paper, the data suggest that some growth oriented investors reduced or liquidated their positions in MSFT in the early 2000s around the first dividend announcement date (during the first quarter of 2003).

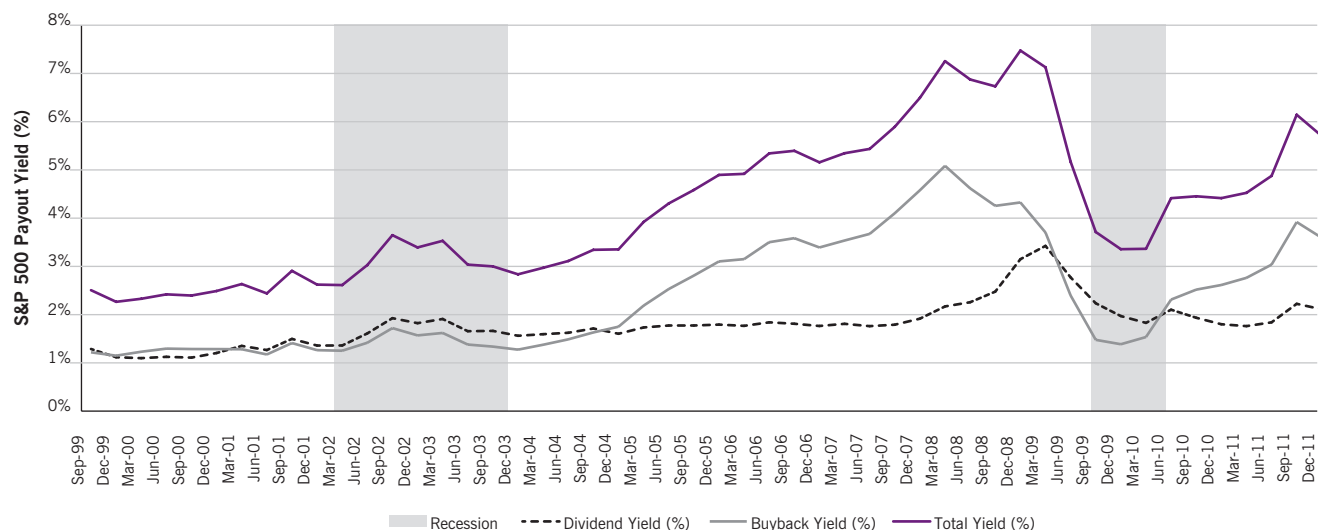
- Though MSFT's stock price experienced short-term excess returns in response to the three major share repurchase programs described above, over the longer term, MSFT's stock performance was lackluster. Indeed, from the end of 2003 through the end of 2008, MSFT's total excess return was -5.33% versus the S&P 500, and 9.92% versus the technology index. And barring a change in the business model, the stock price is unlikely to do much better, regardless of payout strategies (as the M&M propositions might suggest).

The Case of IBM (or How IBM's Share Buyback Program Overtook Its Dividends)

When IBM's business model came under pressure in the early 1980s, the company started a major buyback program that resulted in a repurchase of nearly 50 million shares. This repurchase activity shrank IBM's equity capital base by nearly 8%. And as can be seen in Figure 1, IBM undertook a much larger buyback program starting in 1994—a program that continued to repurchase an average of some \$6 billion worth of shares in each year until the end of the decade and the bursting of the tech bubble in 2000.

What Figure 1 also makes clear is the way in which IBM's share buyback program has come to dwarf its dividend program, both in its average level of payouts and in its variability. Whereas IBM's dividend payout (in total dollars)

Figure 2 **Recent Shareholder Payout Trends**



Source: Standard & Poor's

was pretty much flat from 1994 (the beginning of the Gersher recovery era) through 2003, and then began a gradual but smooth ascent after the tax change in that year, IBM's level of buyback dollars has fluctuated sharply in response to changes in business conditions and its levels of operating cash flow and cash holdings.

Has IBM's buyback program been effective? It depends, of course, on how you measure success. Until the past few years, IBM's share price remained lackluster. And for those analysts (both inside and outside companies) who insist on evaluating stock buybacks as "investments" whose ultimate success depends on having bought back shares at prices that turn out to be "low," the success of IBM's program has not always been clear.

What has proved to be clear, however, is that by paying out large amounts of excess capital—and with a combination of fairly predictable dividends and flexible repurchases that are adjusted each year to reflect changes in the environment—the company's top management has impressed outsiders (including, fairly recently, Warren Buffett) and insiders alike with the firm's commitment to making efficient use of and producing high rates of return on investor capital. (And as I discuss later, capital efficiency may well be the most important message that companies send to their investors through their cash distribution policies.)

The Empirical Evidence

Having considered these three case histories or anecdotes, let's now turn to the broad statistical evidence, or what some have called the plural of anecdote."

Recent Shareholder Payout Trends

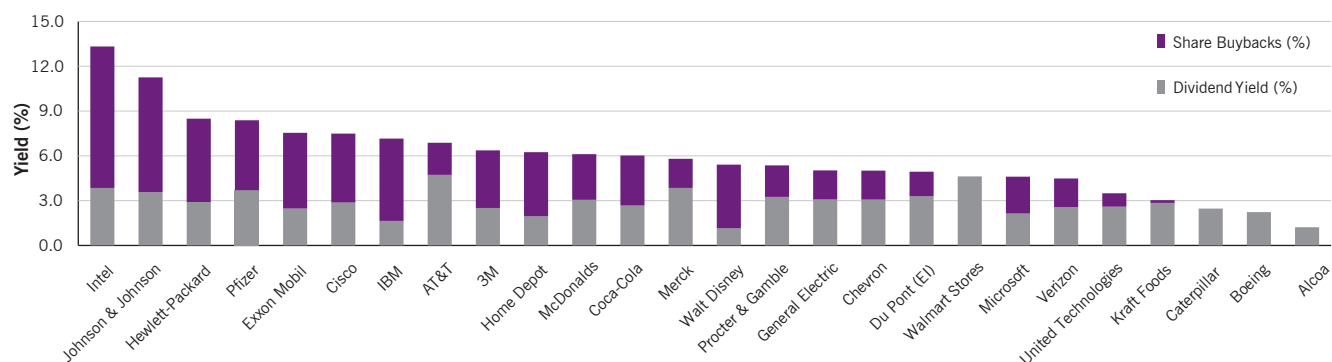
Figure 2 shows the general trajectory of total dividends and

buybacks. From the end of 1999 until the end of May 2003, which saw the passage of the Jobs and Growth Tax Relief Reconciliation Act, total dividends and buybacks remained both relatively constant and roughly equivalent to each other—that is to say, about a dollar of buybacks for each dollar of dividends. But with the equalization of tax rates on dividends and share repurchases (capital gains) accomplished by the 2003 Act, the aggregate amount of dividends rose steadily (if unspectacularly) until the end of 2007, as expected, while total buybacks jumped sharply.

But then came the Great Contraction of 2008-2009, and stock buybacks decreased significantly, underscoring the willingness and ability of companies to make sharp and sudden adjustments of buybacks, but a general reluctance to alter dividends. Aggregate dividends decreased somewhat towards the end of the Great Contraction, but nothing like the plunge in buybacks. And since the end of the Recession (formally declared as having taken place in May 2009), both buybacks and total payouts have recovered smartly—indeed, to levels reached in 2006 (though not the peaks of 2007).

And thus there are two features of Figure 2 that stand out. One is the stability of dividend payouts, the ability of large U.S. companies to maintain their aggregate payout through boom and bust. The second observation is the significant variability, at least since 2003, of total buybacks, as well as their somewhat surprising tendency to mirror the ups and downs of business conditions and the economy. If the main or primary goal of corporate buyback programs, as many analysts appear to believe, is to buy low and sell high, the general pattern of buybacks would look very different from the pattern in Figure 2. (Indeed, some finance scholars argue that this corporate behavior should be viewed as confirmation

Figure 3 Dividend vs. Buyback Yields for Dow Industrials



Source: Bloomberg, calculations by Ramirez & Co.

of behavioral finance models in which corporate managers systematically attempt to time the market—and consistently fail to do so, owing to a tendency to project currently optimistic trends while failing to anticipate “mean reversion.”)

But, as Amy Dittmar pointed out in her review of stock repurchases in this journal a number of years ago,¹³ there is a fairly straightforward explanation for this tendency of companies to buy back (most) shares during periods of general prosperity—one that is largely consistent with value-maximizing behavior. The explanation goes like this: In good economic times when prices are relatively high, corporate cash flows (and cash balances) also tend to be a their highest; and as long as companies are clearly not overvalued, then payouts to shareholders (of at least the unsustainably high parts of earnings) in the form of stock buybacks may well be the most efficient way to pay out the excess capital that is accumulating on corporate balance sheets. And as Dittmar notes, the primary function of buybacks, like dividends, is to return excess capital to shareholders in a tax-efficient way (and not to buy back shares at what turn out to be bargain prices).

Dividend and Share Buybacks by Industry Groups

The conventional wisdom, as mentioned earlier, holds that mature companies (e.g., utilities) tend to pay dividends. By contrast, growth companies (such as technology firms) tend to buy back shares. Consistent with this statement, mature utilities and telecom companies have respective average dividend yields of 4.4%, and 5.3% (as compared to the median S&P 500 dividend yield of 2.4%), with payout ratios exceeding 60% (as compared to the median payout of 32.4%).

Figure 3 further illustrates this precept for the 30 Dow Industrials. As can be seen in Figure 3, three of the top five companies in terms of buying back shares are tech firms, while the other two are in the pharmaceutical and oil sectors.

Conversely, companies that do the least amount of share buybacks are in mature industries, such as industrials and consumer sectors. And as Figures 4 and 5 show, mature telecom companies like AT&T and Verizon have dividend yields of around 5%, and buyback yields that are either zero (Verizon) or very low (AT&T, around 1%). Like mature telecom companies, mature electric utilities have dividend yields of around 4%, and extremely low buyback yields.

To further illustrate this point, Figures 6 and 7 list the top 50 S&P 500 non-financial companies ordered by dividend and shareholder payout ratios. Of the top 50 dividend payers, 20 are in the electric utilities sector, with payout ratios ranging from 56%-85%. The other top dividend payers are also in mature industries, including consumer non-cyclical (largely tobacco), gas utilities, energy, telecoms, and other mature industrial companies. The only exception to this rule seems to be the pharmaceutical company Bristol Myers Squibb, which has a dividend payout ratio of 70%.

At the same time, 29 of the top 50 share buyback companies are in the consumer cyclical sector, underscoring the flexibility of share buybacks. As expected, most of the remaining top buyback companies are in the technology sector, including semiconductors, internet and biotech. Interestingly, pharmaceuticals and healthcare related companies also show up among the top buyback companies.

Similarly, Figure 8 shows that, of the top 50 share buyback companies by size, 23 are in the consumer sector, and eight are in technology, suggesting once more the role of buybacks in preserving flexibility.

How Much Cash Do Companies Need?

To understand how companies decide whether to retain or pay out corporate cash flow, one needs to start by understanding why they keep cash on their balance sheets. Traditional

13. Amy Dittmar, “Corporate Cash Policy and How to Manage it with Share Repurchases,” *Journal of Applied Corporate Finance*, Vol. 20 Number 3 (Summer 2008).

Figure 4 **Telecom Peer Payout and Liquidity**

	Name	Moody's/ S&P LT Rating	Stock Price (\$) 09/11/12	Estimated NTM P/E (x)	Estimated Payout Ratio (%)	Indicated Dividend Yield (%)	LTM Share Buyback Yield (%)	Implied Volatility (%)	Float (# of Shares)	90-Day ADTV (# of Shares)	90-Day ADTV / Total Share in Float
Diversified Telecom Carriers	American Tower Corp	Baa3 / BB+	71.74	37.90	46.74%	1.23%	0.10%	16.80	394,889,618	2,460,779	0.62%
	AT&T Inc	A2 / A-	37.62	14.87	70.25%	4.73%	2.15%	15.16	5,764,133,789	25,772,471	0.45%
	CenturyLink Inc	Baa3 / BB	42.36	16.42	112.37%	6.84%	0.08%	15.33	619,755,249	5,387,340	0.87%
	Crown Castle International Corp	Ba2 / B+	64.12	56.28	0.00%	N/A	0.87%	19.33	286,802,582	1,630,363	0.57%
	Verizon Communications Inc	A3 / A-	44.24	16.22	75.02%	4.62%	0.00%	17.06	2,770,231,934	14,325,604	0.52%
	Mean			28.34	50.73%	4.36%	1.36%	17.14	1,659,349,868	8,513,356	0.71%
	Median			22.38	50.73%	4.62%	0.87%	17.06	619,755,249	5,387,340	0.62%
Wireless Carriers	Clearwire Corp	N/A / CCC	1.64	N/A	0.00%	N/A	0.00%	86.49	381,002,625	9,767,496	2.56%
	Leap Wireless International Inc	B2 / B-	5.76	N/A	0.00%	N/A	0.00%	86.14	53,941,444	2,071,566	3.84%
	MetroPCS Communications Inc	N/A / B+	10.06	13.70	0.00%	N/A	0.10%	42.79	296,221,954	6,738,447	2.27%
	Sprint Nextel Corp	B1 / B+	5.00	N/A	0.00%	N/A	0.00%	52.58	2,995,339,844	63,451,144	2.12%
	Telephone & Data Systems Inc	Baa2 / BBB-	25.25	18.01	0.00%	N/A	0.15%	28.25	95,315,208	704,523	0.74%
	United States Cellular Corp	Baa2 / BBB-	38.61	19.02	0.00%	N/A	0.09%	21.81	13,787,215	104,211	0.76%
	Mean			16.91	0.00%	N/A	0.06%	53.01	639,268,048	13,806,231	2.05%
Median			18.01	0.00%	N/A	0.04%	47.68	195,768,581	4,405,007	2.20%	
Rural Carriers	Frontier Communications Corp	Ba2 / BB	4.76	17.54	150.91%	8.60%	0.00%	34.86	991,726,196	10,580,758	1.07%
	Windstream Corp	Ba2 / BB-	10.52	19.17	177.87%	9.28%	0.00%	23.26	582,790,771	8,458,423	1.45%
	Mean			18.36	164.39%	8.94%	0.00%	29.06	787,258,484	9,519,590	1.26%
	Median			18.36	164.39%	8.94%	0.00%	29.06	787,258,484	9,519,590	1.26%

Source: Bloomberg, calculations by Ramirez & Co.

economic analysis of corporate cash holdings begins by focusing on the following three reasons for holding cash:

- The transactions demand for cash.
- The precautionary demand for cash.
- The speculative demand for cash.¹⁴

Like individuals, corporations hold cash mainly to facilitate their transactions, and to meet possible emergencies. Analysts typically model the transactions and precautionary demand for holding cash by analyzing comparable companies and using techniques like Monte Carlo simulation. Keynes' concept of "speculative demand for cash"—though possibly confused with questionable activities such as profit-seeking using derivatives—is better illustrated by companies (like Apple and Microsoft, as we have already seen) that preserve

cash in anticipation of future mergers and acquisitions and other investment opportunities.

Consistent with this reasoning, more recent research by financial economists has shown that companies with higher capital expenditures and R&D commitments tend to hold higher cash balances—and so do smaller firms and those with higher cash flow volatility. And with the increases in volatility that showed up during the recent Financial Crisis and recession, the interaction between the precautionary and speculative motives can be seen especially clearly in the case of technology companies, which have the lowest dividend yield among the ten sectors of the S&P 500. As can be seen in Table 1, based on data reported in *Barron's* (26 May 2012), tech companies have been hoarding cash:

14. See Baumol 1952, Keynes 1936, Laidler 1993, and Tobin 1956.

Figure 5 **Utility Peer Payout and Liquidity**

Company Name	Moody's / S&P Rating	Stock Price (\$) 09/19/12	Cash / Revenue (%)	Estimated NTM P/E (x)	Estimated Payout Ratio (%)	Indicated Dividend Yield (%)	LTM Share Buyback Yield (%)	90-Day ADTV / Total Share in Float
Alliant Energy Corp	Baa1 / BBB+	43.70	0.34%	14.24	58.66%	4.12%	0.00%	0.37%
Consolidated Edison	WR / A-	59.46	5.21%	15.55	63.30%	4.07%	1.89%	0.45%
Great Plains Energy	Baa3 / BBB	22.20	0.26%	14.18	54.28%	3.83%	0.00%	0.60%
Integrus Energy Group	Baa1 / A-	52.90	0.67%	16.00	82.25%	5.14%	0.06%	0.49%
Northeast Utilities	Baa2 / A-	37.01	1.58%	14.90	55.23%	3.71%	0.00%	0.46%
SCANA Corp	Baa3 / BBB+	48.44	0.70%	14.86	60.75%	4.09%	0.00%	0.45%
Westar Energy Inc	Baa2 / BBB	29.21	0.16%	14.41	65.08%	4.52%	0.61%	0.42%
Wisconsin Energy Corp	A3 / A-	36.86	0.33%	15.55	50.64%	3.26%	2.58%	0.60%
		Mean	1.19%	14.94	60.94%	4.07%	0.67%	0.48%
		Median	0.63%	14.86	58.66%	4.07%	0.06%	0.46%
Entergy Corp	Baa3 / BBB	68.57	6.44%	12.79	61.94%	4.84%	0.87%	0.61%

Source: Bloomberg, calculations by Ramirez & Co.

Table 1 **Cash Holdings of Tech Companies**

Company	P/E (x)	Net Cash (\$ Billions)	Net Cash / Market Value (%)	Dividend Yield (%)
SanDisk	15.7	3.8	47.5	0.0
Nvidia	17.3	3.1	40.3	0.0
Dell	6.4	8.2	37.3	0.0
NetApp	12.6	3.7	36.3	0.0
Cisco	9.1	32.1	35.9	1.9
Yahoo	16.2	6.7	35.8	0.0
Juniper	20.3	3.2	35.2	0.0
Qualcomm	15.5	26.6	26.7	1.7
Xilinx	16.0	2.2	26.2	2.7
Electronic Arts	13.1	1.3	26.0	0.0
MSFT	10.7	56.7	23.2	2.7

There are a number of possible reasons why such companies are choosing to hold so much cash:

Part of the explanation has to do with U.S. taxation of foreign income. Many U.S. companies, particularly those in the technology and pharmaceutical sectors with fixed research and development (R&D) costs in the U.S. and large overseas sales, have been accumulating cash in low-tax jurisdictions overseas. Indeed, more than 90% of the cash of Cisco and Microsoft is held overseas. And such companies are understandably reluctant to repatriate and then pay income tax rates as high as 35% on income that has already been reported

and taxed in overseas jurisdictions.

But perhaps the most important reasons for conserving cash are fairly recent developments in the current macro-economic environment. With the increased uncertainty about both the general economy (paucity of demand) and the political landscape (the future for tax policy), companies have been reluctant to invest, and so have accumulated cash. Today, as in the past, even large industrial companies have tended to hoard cash during recessionary or post-recessionary periods. For example, during the three-year period from July 1998-July 2001, the S&P 500 industrials held cash that averaged 10%-12% of their market cap. But, after the bursting of the dot.com bubble in 2001, the average cash holdings-to-market ratio rose above 20%. Similarly, during the July 2006-July 2007 boom, cash as a fraction of market cap dropped to below 8%; and then jumped to the 16%-22% range during the years following the 2008 Lehman debacle.

Allocating Cash among Competing Uses

In thinking about payout policy, then, companies should be guided by the following principles:

1. Executives should begin by ensuring that the company has *enough cash for transactions and precautionary motives*. Clearly, if the company does not have enough cash to satisfy such demands, it is likely to find itself in financial distress. And research suggests that companies that get into financial trouble can lose 30% or more of their enterprise value.¹⁵

2. Executives should assure themselves that the company is *optimally leveraged*. In theory, this is the point where the marginal benefit from the net present value of the tax shield

15. Tim Opler and Sheridan Titman (July 1994), "Financial Distress and Corporate

Performance," *Journal of Finance*, Vol. 49, No.3

Figure 6 Top S&P Non-Financials Ordered by Dividend Payout Ratio

Name	Industry Sector	Industry Group	Moody's Sr. Unsecured Rating	S&P Issuer Rating	Consensus EPS Growth (%)	Indicated Dividend Yield (%)	NTM P/E (x)	Cash / Revenue (%)	Dividend Payout Ratio (%)	FY 2011 purchase (\$ mln)	Mkt Cap. (\$ mln)	Buyback Payout Ratio (%)
AVON PRODUCTS	Consumer, Non-cyclical	Cosmetics/Personal Care	Baa1	BBB-	-0.1	5.6	17.4	11.3%	98.2	0.0	7,038.4	1.67
PEPCO HOLDINGS	Utilities	Electric	Baa3	BBB+	5.3	5.7	14.9	2.0%	85.0	0.0	4,346.5	2.07
LEGGETT & PLATT	Industrial	Miscellaneous Manufacturer	Baa1	BBB+	15.0	4.6	16.3	6.4%	75.8	225.3	3,514.9	113.15
PAYCHEX INC	Consumer, Non-cyclical	Commercial Services	N/A	N/A	10.3	3.7	21.1	14.2%	78.3	0.0	12,500.7	0.00
WILLIAMS COS INC	Energy	Pipelines	Baa3	BBB	12.0	3.6	26.0	10.3%	92.7	0.0	21,989.0	0.00
REYNOLDS AMERICA	Consumer, Non-cyclical	Agriculture	Baa3	BBB-	7.7	5.4	14.2	23.3%	76.1	282.0	24,857.1	16.21
INTEGRYS ENERGY	Utilities	Electric	Baa1	A-	4.3	5.1	16.2	0.7%	82.4	0.0	4,186.8	0.00
PROGRESS ENERGY	Utilities	Electric	Baa2	BBB+	3.1	4.1	N/A	2.6%	N/A	0.0	N/A	0.00
VERIZON COMMUNICATIONS	Communications	Telecommunications	A3	A-	6.4	4.6	16.3	12.3%	75.4	0.0	126,866.0	0.00
SUNOCO INC	Energy	Oil & Gas	Ba2	BB+*	N/A	1.7	25.7	4.4%	43.4	500.0	4,954.9	427.98
AMEREN CORP	Utilities	Electric	WR	BBB-	-4.0	4.9	15.7	3.6%	77.1	0.0	7,926.9	0.00
PITNEY BOWES INC	Technology	Office/Business Equip	Baa1	BBB+	N/A	9.8	7.8	16.9%	76.2	100.0	3,063.8	24.67
ALTRIA GROUP INC	Consumer, Non-cyclical	Agriculture	Baa1	BBB	7.6	5.3	14.1	19.0%	75.5	1,327.0	67,027.8	28.69
SOUTHERN CO	Utilities	Electric	Baa1	A	5.5	4.4	16.3	7.8%	70.8	0.0	39,409.6	0.00
AT&T INC	Communications	Telecommunications	A2	A-	6.7	4.7	14.7	2.5%	69.7	0.0	214,952.9	0.00
IRON MOUNTAIN	Consumer, Non-cyclical	Commercial Services	N/A	BB-	13.7	3.2	23.4	6.0%	76.0	985.0	5,715.6	406.51
BRISTOL-MYER SQUIBB	Consumer, Non-cyclical	Pharmaceuticals	A2	A+	7.6	4.1	17.7	56.8%	72.6	1,221.0	55,810.7	37.27
CENTERPOINT ENERGY	Utilities	Gas	Baa3	BBB+	5.7	3.9	16.9	7.9%	65.2	0.0	8,983.7	0.00
DUKE ENERGY CORP	Utilities	Electric	N/A	BBB+	4.3	4.8	14.7	15.8%	69.9	0.0	45,185.6	0.00
LORILLARD INC	Consumer, Non-cyclical	Agriculture	N/A	BBB-	9.1	5.4	12.6	36.3%	68.0	1,586.0	15,049.4	133.29
MICROCHIP TECHNOLOGY	Technology	Semiconductors	N/A	N/A	10.0	4.1	15.4	107.2%	62.9	0.0	6,653.3	0.00
CABLEVISION SYSTEMS	Communications	Media	B1	BB	6.8	3.5	18.7	12.0%	66.2	591.4	4,523.5	240.98
FIRSTENERGY CORP	Utilities	Electric	Baa3	BBB-	1.5	5.1	13.8	1.2%	69.9	0.0	18,100.4	0.00
NISOURCE INC	Utilities	Gas	WR	BBB-	N/A	3.7	16.7	0.2%	62.7	3.1	7,296.4	0.74
ONEOK INC	Energy	Pipelines	Baa2	BBB	16.0	2.8	24.4	0.5%	68.3	300.1	9,656.1	76.23
TECO ENERGY INC	Utilities	Electric	Baa2	BBB+	3.7	5.0	13.7	1.4%	68.8	0.0	3,781.5	0.00
DOMINION RESOURCES	Utilities	Electric	Baa2	A-	4.9	4.0	15.8	0.8%	63.0	601.0	30,284.5	31.81
CONSOLIDATED EDISON INC	Utilities	Electric	WR	A-	3.3	4.0	15.6	5.2%	63.3	87.0	17,517.9	7.84
ENTERGY CORP	Utilities	Electric	Baa3	BBB	3.5	4.9	12.7	6.4%	61.9	264.9	12,121.5	28.04
SCANIA CORP	Utilities	Electric	Baa3	BBB+	4.3	4.1	14.9	0.7%	60.8	0.0	6,357.5	0.00
PPL CORPORATION	Utilities	Electric	N/A	BBB	-1.5	5.0	12.2	8.7%	60.4	0.0	16,882.0	0.00
MEADWESTVACO CORP	Basic Materials	Forest Products&Paper	Baa3	BBB	10.0	3.2	18.3	11.0%	59.4	0.0	5,348.9	0.00
PINNACLE WEST	Utilities	Electric	WR	BBB	5.3	3.9	15.3	1.0%	59.9	0.0	5,866.1	0.00
DTE ENERGY CO	Utilities	Electric	Baa2	BBB+	5.0	4.2	14.9	0.8%	62.9	18.0	10,100.9	2.74
WASTE MANAGEMENT	Industrial	Environmental Control	Baa3	BBB	4.0	4.2	14.8	1.9%	61.7	575.0	15,742.4	53.19
CMS ENERGY CORP	Utilities	Electric	Ba1	BBB-	6.0	4.1	14.4	2.6%	59.7	0.0	6,145.0	0.00
AMERICAN ELECTRIC	Utilities	Electric	Baa2	BBB	4.3	4.3	14.0	3.4%	60.4	64.0	21,170.8	4.25
CLOROX	Consumer, Non-cyclical	Household Products/Wares	Baa1	BBB+	8.4	3.6	16.2	4.9%	58.9	225.0	9,149.4	117.90
SPECTRA ENERGY	Energy	Pipelines	N/A	BBB+	5.0	3.9	16.7	3.3%	64.8	0.0	18,802.7	0.00
PUBLIC SERVICE ENTERPRISE	Utilities	Electric	WR	BBB	0.3	4.5	13.3	8.2%	59.3	0.0	16,119.1	0.00
PG&E CORP	Utilities	Electric	Baa1	BBB	2.9	4.2	14.1	3.4%	59.4	0.0	18,444.5	0.00
ELI LILLY & CO	Consumer, Non-cyclical	Pharmaceuticals	A2	AA-	-1.2	4.2	12.8	29.5%	53.5	0.0	54,215.1	0.00
HJ HEINZ CO	Consumer, Non-cyclical	Food	Baa2	BBB+	N/A	3.7	15.5	11.5%	56.9	201.9	17,997.1	6.14
SEMPRA ENERGY	Utilities	Gas	Baa1	BBB+	7.0	3.6	15.4	2.6%	56.2	98.0	15,901.4	9.60
RR DONNELLEY	Consumer, Non-cyclical	Commercial Services	Ba2	BB	5.0	8.8	6.3	4.3%	55.7	500.0	2,138.4	150.70
PHILIP MORRIS	Consumer, Non-cyclical	Agriculture	A2	A	10.3	3.8	16.0	8.1%	60.9	5,372.0	150,838.4	57.44
KIMBERLY-CLARK	Consumer, Non-cyclical	Household Products/Wares	A2	A	8.4	3.6	15.2	3.6%	54.3	1,303.0	32,649.6	62.44
AUTOMATIC DATA	Consumer, Non-cyclical	Commercial Services	N/A	AAA	10.2	2.7	19.6	15.6%	53.0	741.3	28,587.0	50.42
CARNIVAL CORP	Consumer, Cyclical	Leisure Time	A3	BBB+	13.0	2.6	16.1	2.8%	42.3	454.0	30,591.4	28.48

Source: Bloomberg

Figure 7 Top S&P Non-Financials Ordered by Buyback Payout Ratio

Name	Industry Sector	Industry Group	Moody's Sr. Unsecured Rating	S&P Issuer Rating	Consensus EPS Growth (%)	Indicated Dividend Yield (%)	NTM P/E (x)	Cash / Revenue (%)	Dividend Payout Ratio (%)	FY 2011 purchase (\$ mln)	Mkt Cap. (\$ mln)	Buyback Payout Ratio (%)
NOVELLUS SYS	Technology	Semiconductors	N/A	N/A	N/A	N/A	N/A	72.5%	N/A	987.0	N/A	466.0
SUNOCO INC	Energy	Oil&Gas	Ba2	BB+*	N/A	1.7	25.7	4.4%	43.4	500.0	4,954.9	429.8
IRON MOUNTAIN	Consumer, Non-cyclical	Commercial Services	N/A	BB-	13.7	3.2	23.4	6.0%	76.0	985.0	5,715.6	406.8
NRG ENERGY	Utilities	Electric	B1	BB-*	-6.8	N/A	35.1	12.5%	N/A	430.0	5,035.4	374.9
SAFEWAY INC	Consumer, Non-cyclical	Food	Baa3	BBB	8.8	4.2	8.1	1.7%	33.8	1,554.0	4,038.0	312.2
NETFLIX INC	Communications	Internet	Ba2	BB-	10.4	N/A	56.3	23.1%	N/A	199.7	3,360.9	245.4
J.C. PENNEY CO	Consumer, Cyclical	Retail	N/A	B+	21.9	N/A	32.1	9.7%	N/A	900.0	6,314.0	246.9
CABLEVISION SY-A	Communications	Media	B1	BB	6.8	3.5	18.7	12.0%	66.2	591.4	4,523.5	241.2
MARRIOTT INTL-A	Consumer, Cyclical	Lodging	Baa2	BBB	19.0	1.2	21.7	0.9%	27.1	1,425.0	13,427.3	239.3
URBAN OUTFITTER	Consumer, Cyclical	Retail	N/A	N/A	18.3	N/A	22.3	14.0%	N/A	545.5	5,779.0	238.9
AMERISOURCEBERGE	Consumer, Non-cyclical	Pharmaceuticals	Baa2	A-	12.0	1.4	11.9	2.3%	16.6	840.6	9,401.2	217.0
HILLSHIRE BRANDS	Consumer, Non-cyclical	Food	Baa2	BBB	13.6	N/A	N/A	25.1%	N/A	1,313.0	N/A	214.9
GAP INC/THE	Consumer, Cyclical	Retail	Baa3	BB+	11.3	1.4	15.3	12.6%	21.7	2,092.0	16,928.9	212.1
APOLLO GROUP-A	Consumer, Non-cyclical	Commercial Services	N/A	N/A	9.8	N/A	9.4	35.8%	N/A	783.2	3,335.5	198.2
AUTON/ATION INC	Consumer, Cyclical	Retail	Ba2	BBB-	20.7	N/A	15.5	0.6%	N/A	579.8	5,089.8	193.5
KOHL'S CORP	Consumer, Cyclical	Retail	Baa1	BBB+	13.0	2.4	10.8	6.4%	25.9	2,311.0	12,522.7	195.0
WYNDHAM WORLDWID	Consumer, Cyclical	Lodging	Baa3	BBB-	20.0	1.7	15.3	3.2%	26.2	893.0	7,642.6	182.9
DIRECTV	Communications	Media	N/A	BBB	18.2	N/A	11.0	3.1%	N/A	5,496.0	33,985.7	176.9
VERISIGN INC	Communications	Internet	N/A	N/A	14.2	N/A	22.4	164.1%	N/A	550.1	7,472.5	173.6
FOREST LABS INC	Consumer, Non-cyclical	Pharmaceuticals	N/A	N/A	10.3	N/A	28.3	74.6%	N/A	859.4	9,264.7	290.6
AMGEN INC	Consumer, Non-cyclical	Biotechnology	Baa1	A+	10.1	1.8	12.0	125.5%	21.2	8,315.0	62,709.8	166.2
TENET HEALTHCARE	Consumer, Non-cyclical	Healthcare-Services	Caa1	B	11.2	N/A	9.3	1.2%	N/A	374.0	2,400.4	162.3
BIG LOTS INC	Consumer, Cyclical	Retail	N/A	BBB*	11.6	N/A	10.3	1.3%	N/A	364.0	1,895.9	161.2
O'REILLY AUTOMOT	Consumer, Cyclical	Retail	Baa3	BBB	18.3	N/A	15.7	6.0%	N/A	976.6	9,555.1	156.1
MCGRAW-HILL COS	Communications	Media	A3*	N/A	9.5	1.9	14.8	15.4%	28.2	1,500.0	14,875.8	154.4
RR DONNELLEY & S	Consumer, Non-cyclical	Commercial Services	Ba2	BB	5.0	8.8	6.3	4.3%	55.7	500.0	2,138.4	150.9
AUTOZONE INC	Consumer, Cyclical	Retail	Baa2	BBB	16.6	N/A	12.9	1.2%	N/A	1,466.8	13,176.3	146.9
TIME WARNER INC	Communications	Media	Baa2	BBB	13.4	2.3	12.7	12.0%	29.5	4,611.0	42,426.4	141.9
BMC SOFTWARE INC	Technology	Software	Baa2	BBB+	10.2	N/A	12.0	72.8%	N/A	818.7	6,871.3	142.4
FAMILY DOLLAR ST	Consumer, Cyclical	Retail	Baa3	BBB-	13.9	1.3	15.1	2.6%	19.8	670.5	7,502.5	140.4
INTUIT INC	Technology	Software	Baa1	BBB	13.9	1.1	17.7	17.7%	20.0	900.0	17,805.0	140.2
TIME WARNER CABL	Communications	Media	Baa2	BBB	11.6	2.4	14.2	25.3%	34.4	2,657.0	28,302.0	137.6
LIMITED BRANDS	Consumer, Cyclical	Retail	Ba2	BB+	12.5	2.0	16.2	9.1%	32.3	1,190.0	14,459.8	137.3
CINTAS CORP	Consumer, Cyclical	Textiles	A2	BBB+	11.2	1.3	16.1	8.3%	20.8	392.3	5,278.8	135.4
LORILLARD INC	Consumer, Non-cyclical	Agriculture	N/A	BBB-	9.1	5.4	12.6	36.3%	68.0	1,586.0	15,049.4	133.4
NORTHROP GRUMMAN	Industrial	Aerospace/Defense	Baa1	BBB+	3.8	3.3	9.4	11.7%	31.2	2,295.0	16,397.5	131.3
YAHOO! INC	Communications	Internet	N/A	NR	11.1	N/A	14.2	50.8%	N/A	1,618.7	18,681.4	127.0
LOWE'S COS INC	Consumer, Cyclical	Retail	A3	A-*	15.1	2.2	15.8	2.6%	34.4	2,937.0	33,532.6	124.9
CROWN CASTLE INT	Communications	Telecommunications	B1	B+	38.9	N/A	55.6	3.7%	N/A	318.4	18,605.0	122.8
BECTON DICKINSON	Consumer, Non-cyclical	Healthcare-Products	A2*	A+	8.0	2.3	13.6	19.8%	30.9	1,500.0	15,796.8	123.8
QUEST DIAGNOSTIC	Consumer, Non-cyclical	Healthcare-Services	Baa2	BBB+	11.4	1.1	12.6	2.2%	14.0	935.0	9,769.5	123.2
ELECTRONIC ARTS	Technology	Software	N/A	N/A	16.6	N/A	12.4	45.1%	N/A	471.0	4,616.7	128.1
HEWLETT-PACKARD	Technology	Computers	A3	BBB+	10.0	2.9	4.4	6.6%	12.7	10,117.0	35,725.1	121.3
CONOCOPHILLIPS	Energy	Oil&Gas	A1	A	N/A	4.5	10.2	3.5%	46.1	11,123.0	70,698.9	121.1
CLOROX CO	Consumer, Non-cyclical	Household Products/Wares	Baa1	BBB+	8.4	3.6	16.2	4.9%	58.9	225.0	9,149.4	117.9
INGERSOLL-RAND	Industrial	Miscellaneous Manufacture	Baa1	BBB+	11.0	1.4	13.2	8.1%	18.3	1,157.5	14,235.1	117.3
AMPHENOL CORP-A	Industrial	Electronics	Baa2	BBB	15.0	0.7	17.2	16.1%	11.4	672.2	10,171.2	117.6
MOTOROLA Solutio	Communications	Telecommunications	Baa2	BBB	N/A	2.1	14.9	59.8%	30.7	1,110.0	14,469.9	116.7
BEST BUY CO INC	Consumer, Cyclical	Retail	Baa2	BB+*	5.1	3.7	6.0	2.4%	21.8	1,500.0	6,255.3	116.8
KROGER CO	Consumer, Non-cyclical	Food	Baa2	BBB	8.9	2.5	9.5	0.2%	24.1	1,547.0	12,528.3	116.1

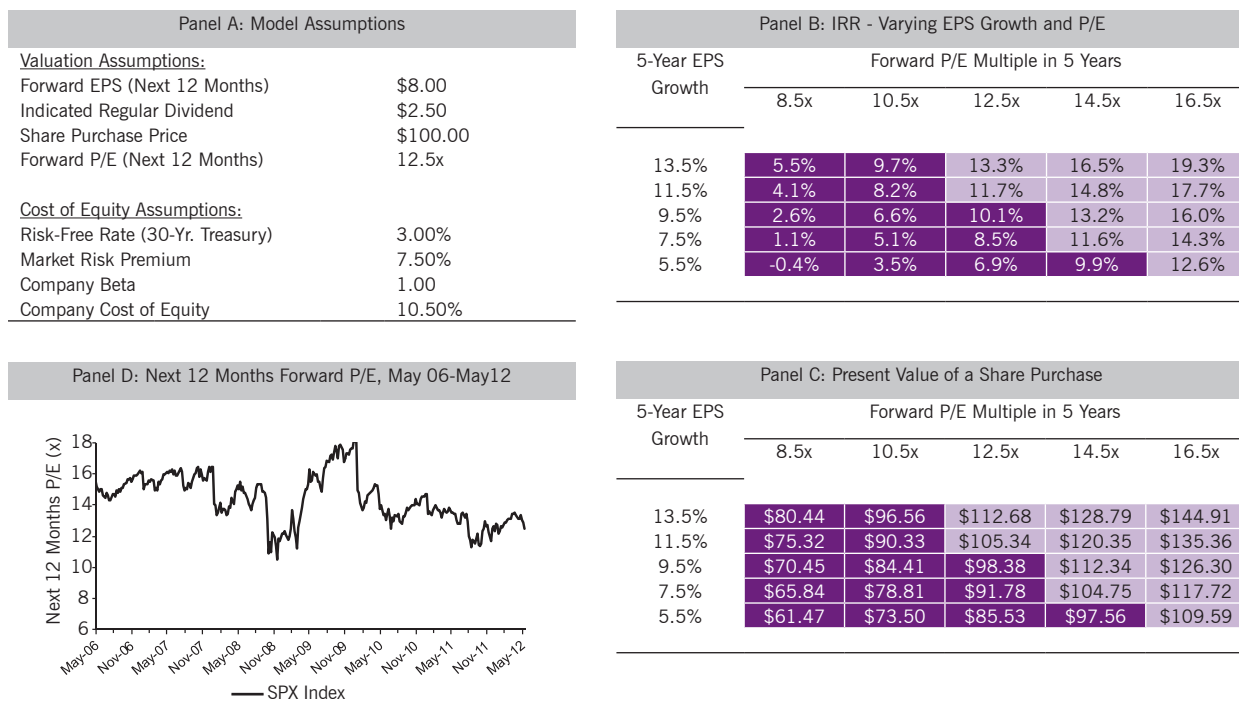
Source: Bloomberg

Figure 8 Top S&P Non-Financials Ordered by Size of Repurchase Programs

Name	Industry Sector	Industry Group	Moody's Sr. Unsecured Rating	S&P Issuer Rating	Consensus EPS Growth (%)	Indicated Dividend Yield (%)	NTM P/E (x)	Cash	Revenue	Cash / Revenue (%)	Dividend Payout Ratio (%)	FY 2011 Repurchase (\$ mln)	Mkt Cap. (\$ mln)	Buyback Payout Ratio (%)
EXXON MOBIL CORP	Energy	Oil&Gas	WR	AAA	3.4	2.5	11.5	12664.0	434824.0	2.9%	28.4	22,055.0	426,051.2	0.6
IBM	Technology	Computers	Aa3	AA-	9.7	1.6	12.7	11922.0	106098.0	11.2%	21.0	15,046.0	236,337.2	0.8
INTEL CORP	Technology	Semiconductors	A1	A+	10.8	3.9	10.3	15399.0	54527.0	28.2%	39.6	14,340.0	116,920.1	1.3
CONOCOPHILLIPS	Energy	Oil&Gas	A1	A	N/A	4.5	10.2	6361.0	182437.0	3.5%	46.1	11,123.0	70,698.9	121.1
HEWLETT-PACKARD	Technology	Computers	A3	BBB+	10.0	2.9	4.4	8043.0	122520.0	6.6%	12.7	10,117.0	35,725.1	121.3
PFIZER INC	Consumer, Non-cyclical	Pharmaceuticals	A1	AA	3.5	3.7	10.4	26758.0	64401.0	41.5%	38.6	9,000.0	177,773.7	0.5
AMGEN INC	Consumer, Non-cyclical	Biotechnology	Baa1	A+	10.1	1.8	12.0	20641.0	16442.0	125.5%	21.2	8,315.0	62,709.8	166.2
WAL-MART STORES	Consumer, Cyclical	Retail	Aa2	AA	9.8	2.1	14.3	6550.0	460709.0	1.4%	30.6	6,298.0	250,427.6	0.4
ORACLE CORP	Technology	Software	A1	A+	13.3	0.7	12.0	30676.0	37121.0	82.6%	8.8	5,856.0	160,878.6	0.4
DIRECTV	Communications	Media	NA	BBB	18.2	NA	11.0	873.0	28577.0	3.1%	NA	5,496.0	33,985.7	176.9
PHILIP MORRIS IN	Consumer, Non-cyclical	Agriculture	A2	A	10.3	3.8	16.0	2550.0	31601.0	8.1%	60.9	5,372.0	150,838.4	0.6
MICROSOFT CORP	Technology	Software	Aaa	AAA	10.0	2.6	10.1	63040.0	73723.0	85.5%	25.9	5,029.0	261,645.8	0.2
WALT DISNEY CO	Communications	Media	A2	A	11.6	1.1	15.0	3185.0	41921.0	7.6%	17.2	4,993.0	93,930.3	0.8
CISCO SYSTEMS	Communications	Telecommunications	A1	A+	9.6	2.9	9.9	48716.0	46061.0	105.8%	28.5	4,760.0	103,103.3	0.5
GENERAL ELECTRIC	Industrial	Miscellaneous Manufactur	Aa3	AA+	11.0	3.1	13.2	131875.0	143259.0	92.1%	40.5	4,756.0	234,262.4	0.3
TIME WARNER INC	Communications	Media	Baa2	BBB	13.4	2.3	12.7	3476.0	28984.0	12.0%	29.5	4,611.0	42,426.4	141.9
NEWS CORP-A	Communications	Media	N/A	BBB+ *	15.5	0.7	14.2	9626.0	33706.0	28.6%	9.8	4,589.0	58,593.9	1.1
COCA-COLA CO/THE	Consumer, Non-cyclical	Beverages	Aa3	AA-	7.7	2.7	17.8	14035.0	47510.0	29.5%	47.7	4,513.0	171,613.3	0.5
PROCTER & GAMBLE	Consumer, Non-cyclical	Cosmetics/Personal Care	Aa3	AA-	7.5	3.3	17.5	4436.0	84458.0	5.3%	57.0	4,024.0	190,698.7	0.4
HOME DEPOT INC	Consumer, Cyclical	Retail	A3	A-	15.8	2.0	18.5	1987.0	71718.0	2.8%	36.1	3,470.0	89,632.5	0.7
MCDONALDS CORP	Consumer, Cyclical	Retail	A2	A	10.0	3.1	15.8	2335.7	27451.5	8.5%	48.2	3,363.1	92,473.1	0.6
CHEVRON CORP	Energy	Oil&Gas	Aa1	AA	-1.1	3.1	9.2	16113.0	230561.0	7.0%	28.3	3,193.0	230,060.9	0.1
WELLPOINT INC	Consumer, Non-cyclical	Healthcare-Services	Baa2	A-	10.8	2.0	7.4	19317.6	61538.2	31.4%	14.7	3,039.8	18,974.6	1.2
CVS CAREMARK COR	Consumer, Cyclical	Retail	Baa2	BBB+	13.5	1.4	12.8	1418.0	116503.0	1.2%	17.7	3,001.0	59,756.9	0.6
SCHLUMBERGER LTD	Energy	Oil&Gas Services	A1	A+	18.0	1.4	15.9	4827.0	42262.0	11.4%	22.6	2,998.0	102,977.4	0.5
UNITEDHEALTH GRP	Consumer, Non-cyclical	Healthcare-Services	A3	A-	11.0	1.6	10.0	12006.0	105743.0	11.4%	15.6	2,994.0	56,024.3	0.5
LOWE'S COS INC	Consumer, Cyclical	Retail	A3	A- *	15.1	2.2	15.8	1300.0	50883.0	2.6%	34.4	2,937.0	33,532.6	124.9
EMC CORP/MA	Technology	Computers	WR	A	15.0	N/A	14.7	6318.0	20960.4	30.1%	N/A	2,926.2	58,470.3	0.7
DELL INC	Technology	Computers	A2	A-	7.3	3.0	6.1	14818.0	60301.0	24.6%	18.0	2,717.0	18,785.8	0.9
3M CO	Industrial	Miscellaneous Manufactur	Aa2	AA-	10.7	2.5	13.9	4576.0	29640.0	15.4%	34.9	2,701.0	64,970.2	0.6
UNITED PARCEL-B	Industrial	Transportation	Aa3 *	AA- *	9.6	3.1	14.7	4275.0	53817.0	7.9%	45.4	2,665.0	70,617.9	0.6
TIME WARNER CABL	Communications	Media	Baa2	BBB	11.6	2.4	14.2	5177.0	20442.0	25.3%	34.4	2,657.0	28,302.0	137.6
JOHNSON&JOHNSON	Consumer, Non-cyclical	Pharmaceuticals	Aaa	AAA	6.4	3.6	12.8	32261.0	64874.0	49.7%	45.6	2,525.0	188,774.6	0.2
EXPRESS SCRIPTS	Consumer, Non-cyclical	Pharmaceuticals	Baa3	NR	16.9	N/A	14.8	5620.1	63497.5	8.9%	N/A	2,515.7	50,947.5	0.7
PEPSICO INC	Consumer, Non-cyclical	Beverages	Aa3	A	8.8	3.1	16.3	4425.0	66626.0	6.6%	49.8	2,496.0	109,655.1	0.4
LOCKHEED MARTIN	Industrial	Aerospace/Defense	Baa1	A-	6.9	4.3	11.1	3585.0	47544.0	7.5%	48.1	2,465.0	30,015.0	0.9
VIACOM INC-B	Communications	Media	Baa1	BBB+	13.5	2.1	10.9	1021.0	14577.0	7.0%	23.1	2,450.0	26,862.8	1.0
GILEAD SCIENCES	Consumer, Non-cyclical	Biotechnology	Baa1	A-	17.6	N/A	14.8	9964.0	9009.7	110.6%	N/A	2,383.1	46,922.4	0.8
DEVON ENERGY CO	Energy	Oil&Gas	Baa1	BBB+	6.2	1.3	15.0	7058.0	10190.0	69.3%	18.9	2,332.0	25,681.7	1.4
KOHL'S CORP	Consumer, Cyclical	Retail	Baa1	BBB+	13.0	2.4	10.8	1205.0	18842.0	6.4%	25.9	2,311.0	12,522.7	195.0
NORTHROP GRUMMAN	Industrial	Aerospace/Defense	Baa1	BBB+	3.8	3.3	9.4	3002.0	25590.0	11.7%	31.2	2,295.0	16,397.5	131.3
CELGENE CORP	Consumer, Non-cyclical	Biotechnology	Baa2	BBB+	23.6	N/A	14.3	2648.2	5173.7	51.2%	N/A	2,221.2	32,904.7	1.0
UNITED TECH CORP	Industrial	Aerospace/Defense	A2	A	10.9	2.6	13.6	5960.0	56001.0	10.6%	35.4	2,175.0	75,176.9	0.4
ACCENTURE PLC-A	Technology	Computers	N/A	A+	13.3	2.0	16.0	5706.0	29663.8	19.2%	32.7	2,171.9	45,951.7	0.8
COMCAST CORP-A	Communications	Media	Baa1	BBB+	16.8	1.8	16.5	1620.0	59470.0	2.7%	30.5	2,141.0	94,862.6	0.4
GAP INC/THE	Consumer, Cyclical	Retail	Baa3	BB+	11.3	1.4	15.3	1885.0	14930.0	12.6%	21.7	2,092.0	16,928.9	212.1
NORFOLK SOUTHERN	Industrial	Transportation	Baa1	BBB+	14.7	2.7	11.6	301.0	11349.0	2.7%	31.2	2,051.0	23,864.7	1.0
WALGREEN CO	Consumer, Cyclical	Retail	Baa1	BBB	13.2	3.1	11.6	1556.0	72527.0	2.1%	35.5	2,028.0	33,925.7	0.7
VISA INC-CLASS A	Financial	Diversified Finan Serv	N/A	A+	18.7	0.7	18.7	4109.0	10073.0	40.8%	12.2	2,024.0	89,900.8	0.4
TEXAS INSTRUMENT	Technology	Semiconductors	A1	A+	9.5	2.3	15.2	2935.0	13342.0	22.0%	34.9	1,973.0	33,632.1	0.9
MERCK & CO	Consumer, Non-cyclical	Pharmaceuticals	Aa3	AA	4.5	3.9	11.6	14972.0	48358.0	31.0%	44.5	1,921.0	132,850.5	0.2
MCKESSON CORP	Consumer, Non-cyclical	Pharmaceuticals	Baa2	A-	14.3	0.9	11.5	3149.0	123552.0	2.5%	10.5	1,874.0	20,627.2	1.0

Source for Model Assumptions: Bloomberg

Figure 9 Share Buyback Rules: NPV or IRR



Source for Model Assumptions: Bloomberg

Buybacks Evaluated as an Investment

We assume that the company's planning horizon is five years, and that the company will keep on paying the same level of dividends throughout the forecast horizon. We then sensitize our analysis along two dimensions: the EPS growth rate, and forward P/E multiples. Figure 9 shows the combinations where a share buyback would produce positive NPV.

To produce Figure 9 we need to make the following assumptions:

1. Forward EPS (next 12 months) \$8.00
2. Indicated regular dividend per year \$2.50
3. Share purchase price \$100.00

4. Forward P/E (next 12 months) 12.5x
5. Cost of equity (using CAPM)
 - a. Risk-free rate (30-Y UST) 3.00%
 - b. Equity market risk premium 7.50%
 - c. Company beta 1.00
 - d. Company cost of equity 10.50%

Many of these assumptions are debatable. Nonetheless, the purpose of this paper is not to rule on these debates but rather to provide a decision framework within which executives can make appropriate corporate finance decisions.¹⁶

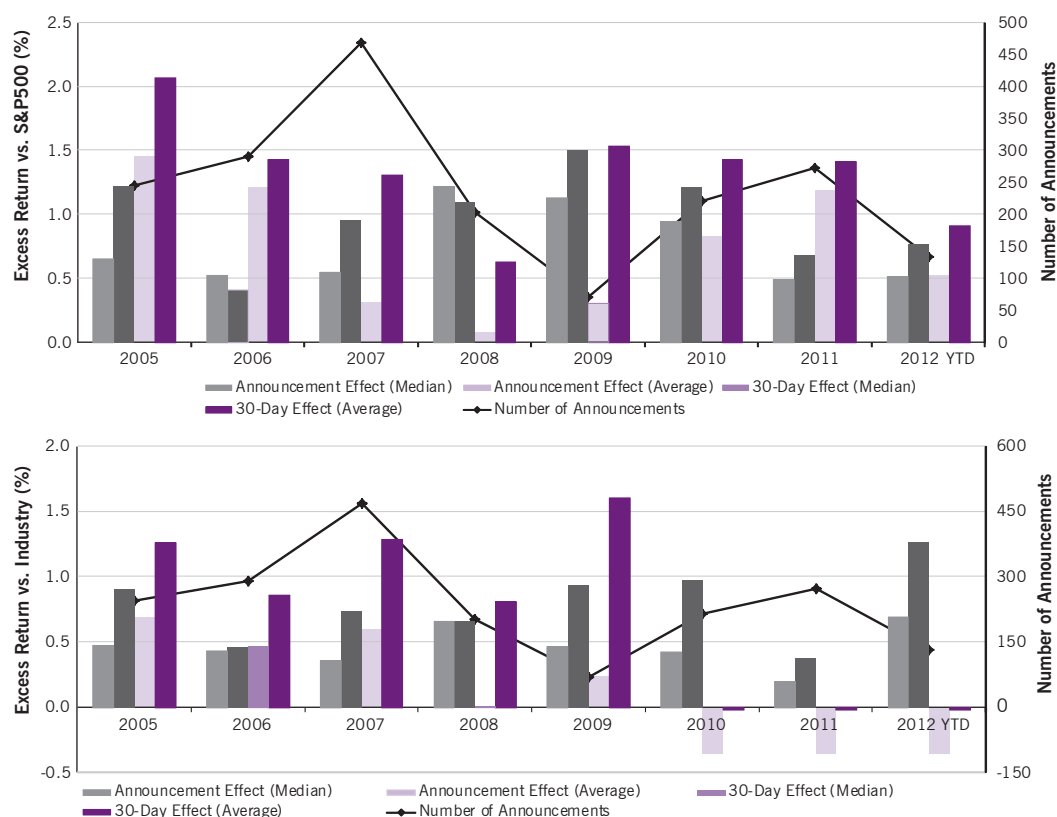
and "control" benefits provided by debt are offset by the marginal cost of debt, including distress costs. In practice, many executives and boards define optimal capital structure as one that makes the most aggressive use of debt that is still consistent with allowing the firm to keep its targeted credit rating.

3. Cash reserved for potential M&A transactions or other promising investments should have an expected return that is at least as high as corporate capital that is allocated to other business projects.

4. As should be clear from both the Apple and MSFT case studies, *companies should distribute cash to shareholders*

16. Though we use the CAPM model when estimating the cost of equity, we could also have used other models such as the Fama-French model. A thorough discussion on estimating the cost of equity, however, is beyond the scope of this paper.

Figure 10 The Market's Response to Share Repurchase Announcements



Source: Bloomberg. Analysis by Ramirez & Co.

only after they have set aside enough to satisfy the operating and investment requirements of their business. Stated differently, companies should consider cash distributions only after they have run out of positive-NPV projects—or projects with IRRs that are expected to exceed the company's imputed cost of equity. (Though the academic literature stresses the superiority of the NPV method over the IRR method, I will just note that in most circumstances the two approaches lead to the same conclusions.)

5. At least consider keeping *distributed dividends* in line with those of your peer group. If a company's dividend policy is not in line with its peer group's, the market usually assumes that management wants to send a clear signal to differentiate itself from the peer group. (For example, in the 1990s, Florida Power and Light (FPL) cut its dividend by a third both to conserve capital and to send a signal that it was transforming itself from a mature utility to a riskier, growth-oriented utility with investments in markets such as

Latin America.)¹⁷ Moreover, many companies find it wise to grow their dividends at rates slightly below their earnings growth rates.

6. Companies pay special dividends when they clearly have excess cash produced by what is likely to be a non-recurring event, such as a debt recapitalization or other transforming transaction. Below are some instructive examples:

- In the beginning of 2011, Sara Lee divided itself into two separate publicly traded companies and funded a \$3 (17% yield) special dividend from the sale of its North American Fresh Bakery business.

- In early 2010, Coca-Cola Enterprises (CCE) sold its North American Business to the Coca-Cola Company (KO). CCE's consideration for this transaction included KO's 34% ownership in CCE and KO's assumption of \$8.9 billion of CCE debt. CCE shareholders exchanged their old CCE shares for new CCE shares focusing solely on Europe, and received \$10 (amounting to a 52% yield) of special dividends.

17. See Eugene Brigham and Dennis Soter, "The Dividend Cut Heard 'Round The World," *Journal of Applied Corporate Finance*, Volume 8 Number 1 (Spring 1996).

CCE funded this special dividend with debt financing.

7. Typically, management will turn its attention to share buybacks (at least those that go beyond share buybacks that are earmarked to offset shares and options issued for employee compensation purposes) only after it has satisfied all of the above criteria. In addition to its signaling implications, executives like to analyze share buybacks using two criteria:

- **Accounting.** Share buybacks are expected to be Earnings per Share (EPS) “accretive” if the inverse of the company’s P/E multiple (i.e., E/P) is greater than the after-tax return of the company’s cash holdings (or alternatively, the after-tax cost of debt for debt-financed share buybacks).

- **Economics.** Such accounting effects, however, are likely to be a secondary consideration for companies with reasonably sophisticated investors. In such cases, the managements of companies intent on buying back their shares should try to assure themselves of the following two conditions: (1) the distribution of cash will not significantly increase the probability that the firm will get into financial trouble that will prevent it from carrying out its business plan; and (2) the firm’s shares are at least fairly valued (if not somewhat undervalued), with a significant drop in the price viewed as highly unlikely. The purpose of the second condition is to avoid transfers of wealth from existing to selling shareholders. (Many corporate practitioners evaluate share buybacks as investments in the company’s own shares, which should be carried out only if they have a positive NPV; but as demonstrated in the box inset, such analysis makes sense only in cases where management has a different view of the company’s value than what is reflected in its current share price. If the current price is reasonable, then share buybacks are by definition a zero NPV project. For an illustration of how we might apply such a construct, see Figure 9.

The Bottom Line on Buybacks

As shown in Figure 10, the market responds positively to share buyback announcements. More specifically, the market tends to respond very positively to large buyback announcements and in more muted fashion to smaller announcements.

In interpreting these responses, we need to keep in mind that the particular economic reasons behind a buyback program are far more relevant for the outcome than the behavior of the overall averages. For example, as described

in the introduction, we would expect that the market would respond positively to share repurchases when management is sending a strong, permanent signal that the shares of the company are undervalued due to overinvestment problems in the company’s major line of businesses.

Conclusion

In setting payout policy, management should begin by ensuring the firm’s ability to satisfy all the standard corporate uses of cash, including the need for transactions, precautionary (or risk management) considerations, and possible requirements for new investment, including M&A. Second, it should make sure that the company has the right capital structure, one that makes full use of the firm’s debt capacity while ensuring its ability to carry out its business plan under all economic and industry scenarios. Third, it should try to make the company’s dividend statistics consistent with those of its peers, unless there are strong reasons to stick out from the crowd to send a specific signal. And fourth and last, companies should repurchase shares only if they are confident that its share price will not be significantly lower in the future.

Most important, as Microsoft’s then-CFO John Connors stated in a 2005 interview, “At the end of the day, you want to be sure that your cash distribution strategy helps your overall story with investors.” As finance academics like to put it, “Pay attention to clientele effects.” In other words, consider increasing your dividend to catch up with your competitors, especially if you are confident in your company’s ability to generate a stable cash flow. Or if you have received a large windfall, but you think the firm is fully valued, then consider paying a large special (one-time) dividend. On the other hand, there are times when managers know more about their firm’s prospects than markets; and if the firm’s cash flow is too unstable to handle an increase in the dividend—and the market seems to be undervaluing the firm’s growth prospects—then management should give careful consideration to share buybacks, whether in the open market or through a tender offer transaction.

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Appendix: Allocating Cash Among Competing Uses as an Optimization Problem

We can analyze the cash allocation problem among competing uses as a classical optimization problem subject to constraints. In particular, our objective would be to maximize the company’s share price:

$$\text{Max } S = S(\text{CC}, \text{PR}, \text{DV}, \text{SB}), \quad (1)$$

where S represents share price, and CC is the allocation to company cash (transactions + precautionary + speculative demands for cash); PR is the cash invested in growth projects; DV is the cash allocated to dividends; and SB is the cash

allocated to share buybacks.

This maximization would be subject to:

$$CC+PR+DV+SB=K, \quad (2)$$

where K represents the total amount of available cash.

Setting up the Hamiltonian and using Lagrangian multipliers, we have:

$$\text{Max } H = S(CC, PR, DV, SB) - \lambda(CC + PR + DV + SB - K) \quad (3)$$

Taking partial derivatives with respect to CC, PR, DV, and SB, and setting them to zero, we get:

$$\partial S/\partial CC = \partial S/\partial PR = \partial S/\partial DV = \partial S/\partial SB = \lambda \quad (4)$$

This deterministic equation (4) means that a share price maximizing company should allocate its cash among the various competing uses in such a way that once the maximization is complete, the last dollar spent on each activity should have the same expected return. This result is virtually identical to that of a profit maximizing consumer who is allocating his income to various goods, say apples and bananas. The optimized consumer's equilibrium point is such that the marginal utility of the banana divided by the price of the banana equals the marginal utility of the apple divided by the price of the apple, which in turn equal the Lagrangian. Here we have virtually the same result in that the price of each use is identical, namely one dollar.

To reiterate, the share price maximizing company allocates cash in such a way that it equilibrates the expected increase in the share price for the last dollar spent on each activity.

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