Dividends and Share Repurchases: Effects on Common Stock Returns

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Abstract

Investment professionals have cited evidence that stocks paying dividends have outperformed the stock market indices historically. Additionally, firms have been repurchasing common shares in recent years at the urging of activist investors as a way of returning capital to shareholders and possibly to enhance shareholder value. Our study looks at the empirical relationship between share returns, dividend yields, and buyback yield (that is, percentage change in shares). We also examine the relationship between the metric of shareholder yield (composed of dividend and buyback yields) and stock returns. For the period of 2007 through 2013 we find that shareholder yield is statistically significant in four out of seven years with a negative relationship between the yield and returns. We find that the variables with the greatest impact on returns are firm size and dividend yields. Dividend yields and changes in shares are significantly and negatively related to share returns in four out of seven years, in particular 2012 and 2013. Regardless of size, cash distributions to shareholders through dividends or repurchases have generally had no effect or a negative effect on share returns.

INTRODUCTION

Bierman (2008) cites evidence from two articles appearing in the *New York Times* as testaments for dividend investing. According to the articles, investors earned a return of 14 percent since 2006 on dividend-paying stocks which was far superior to the returns on shares that did not

pay dividends; and dividend-paying stocks earned annual returns that were 2.2 percent higher than shares that do not pay dividends from 1980 through 2006. In an Abreast of the Market column in the *Wall Street Journal*, Strumpf (2014) discusses the shift in investing strategy from growth stocks in 2013 to dividend-paying shares in early 2014 as investors became concerned about the ability of corporations to continue to grow earnings. Additionally, Strumpf reports FactSet data that dividends are expected to increase 9.9% in 2014 making dividend-paying shares attractive to investors.

In the past year, Carl Icahn and other activist investors have agitated large firms such as Apple Inc., to pay corporate cash in the form of dividends. Within the past two years, many U.S. corporations have announced share repurchase programs, e.g., Apple Inc., IBM, Masco, Starwood Property Trust (The Online Investor, 2014). Ikenberry and Grullon (2000) hypothesized that firms buy back common stock for two reasons: (1) to distribute corporate cash to shareholders in a tax-efficient manner and (2) to signal shareholders that management believes the firm's shares are undervalued. According to Hulbert (2013), shares of firms that have announced repurchase programs have earned returns at least double that of the (average) return of shares in the stock market.

Given these published reports of higher share returns for dividend-paying stocks and for stocks of firms with repurchase programs, the impact on share returns of dividends and corporate share buybacks would be of interest to most investors. Investors may wonder if share returns (and presumably share prices) are impacted by the dividends firms pay and by the shares repurchased. Theoretically, the long-run movement in share prices would reflect both the growth in dividends and reduction in the number of shares in financial markets due to repurchases by corporations.

The purpose of our study is to examine the relationship of dividends and share repurchases on share returns for the past seven years. We empirically study the relationship between stock price changes, dividend yields, and percentage changes in shares outstanding for a sample of U.S. publicly traded firms from 2007 through 2013. If it is true that dividend-paying stocks and stocks of firms repurchasing shares earn higher returns than shares generally, we hypothesize that dividends and share buybacks would be significantly and positively related to share returns. Our study differs from previous research by using a sample of publicly traded firms that have, in fact, changed the number of shares outstanding. We include firms that have repurchased shares and firms that have increased the number of shares outstanding, and the relationships are analyzed for each year from 2007 through 2013. For each year, the sample includes the same publicly traded firms. We also examine the relationship between share returns, dividend yields, and percentage changes in outstanding shares by dividing the sample of firms into two subsamples: firms that decreased shares outstanding and firms that increased the number of shares. Finally, our study uses a relatively new metric, shareholder yield, to capture the interaction of dividend yield and share repurchases on share returns.

Prior research studies provide evidence that share repurchases may impact share returns around announcement dates and that dividends can be important in affecting share returns. Many of the studies use event study methodology to examine share repurchases around announcement dates while focusing on the motivation behind repurchase programs. Ikenberry, Lakonishok, and Vermaelen (1994) find that the abnormal return for firms announcing repurchasing programs was about 12% during the 1980s with "value" stocks having an average abnormal return of 45% which they attribute to undervaluation of shares. Stephens and Weisbach (1998), using event study methodology, determine that share repurchases in a quarter were

negatively related to share price performance of the quarter prior to the repurchase announcement as well as return in the subsequent quarter following an announcement. They conclude repurchases were related to the perceived undervaluation of shares by management, and repurchases were a function of firm cash flow. Nayar, Singh, and Zebedee (2008) examine the impacts of share repurchases on the short-term and long-term liquidity of shares for firms buying back shares in the open market. They find improvements in liquidity in the short term along with share price increases and reduced price volatility with repurchases, but the improvement in liquidity is temporary and did not last through the 75-day period following the repurchase announcement. Akhigbee, Kim, and Madura (2007) report positive returns for buy-and-hold strategies three years after repurchase announcements along with positive stock price improvement around the repurchase announcement dates. Ang and Bekaert (2007) show dividend yield is predictive of share returns only in the short-run rather than long run, and earnings yield predicted future cash flows. Pontiff and Woodgate (2008) determined share issuance had strong predictive ability for stock returns over the Fama/French factors of company size, book-to-market ratio, and share price momentum. Bali, Demirtas, and Tehranian (2008) find that dividend payout and aggregate earnings were not predictive of higher returns, but earnings yield was significant in predicting returns. Grullon and Michaely (2002) conclude share repurchases are a significant form of payments to shareholders, and firms use funds that would otherwise be paid to shareholders as cash dividends. Their results also indicate that both newer firms and larger firms prefer to distribute cash to shareholders through repurchases rather than cash dividends. Since 1983, firms have been substituting repurchases for dividends with increasing frequency. William and Miller (2013) review Standard and Poor's Dividend Aristocrat Index and report dividend-paying stocks outperformed the S&P 500 index over the past two business cycles.

Applying dividend and repurchase studies to real estate investment trusts (REITs), Kallberg, Liu, and Srinivasan (2003) develop a model with share repurchases included as part of the dividend payout of real estate investment trusts (REITs) to examine the effectiveness of the dividend valuation model in predicting share prices for REITs. They conclude that models determining firm value based on dividends could not be rejected and would predict REIT prices better than they were able to predict other equities. Brau and Holmes (2006) look at the stock return effects of repurchase announcements of REITs to determine if such programs support the theory that repurchases provide information to shareholders about management intentions. Their results support the theory that management signaling is a major determinant of stock price changes for REITs.

Our study examines the relationship between share returns and the distribution of corporate cash to shareholders in the form of dividends or share repurchases over a longer period of time than in prior studies. Our analysis uses annual cross-sectional data from the American Association of Individual Investors (AAII) from 2007 through 2013. The database includes two measures relevant for analysis: shareholder yield and buyback yield. Shareholder yield is defined by AAII as the sum of buyback yield and dividend yield. In turn, the buyback yield is the percentage change in the average number of shares in a given year. A positive buyback yield indicates the average number of shares outstanding is declining while a negative number indicates the average number of shares outstanding is increasing.

EMPIRICAL MODEL AND DATA

We hypothesize that dividends and stock repurchases are positively and significantly related to stock returns. The first model estimates the relationship between shareholder yield and stock returns while controlling for firm size, leverage, price-to-book, and return on equity.

$$RET_t = \alpha + \beta_1 LEV_i + \beta_2 PBV_i + \beta_3 ROE_i + \beta_4 SIZE_i + \beta_5 FCFPS_i + \beta_6 SHARYLD_i + \varepsilon \quad (1)$$

Where,
RET_t = annual change in share price for firm i in year t
LEV_i = ratio of long-term debt to shareholders' equity for firm i in year t
PBV_i = ratio of share price to book value per share for firm i in year t
ROE_i = return on equity for firm i in year t
$SIZE_i$ = log of the total assets per share for firm i in year t
$FCFPS_i$ = free cash flow per share for firm i in year t
$SHARYLD_i$ = shareholder yield for firm i
ε = error term

RET is the percentage change in share price for each year, 2007 through 2013, using the closing prices on December 31 of each year beginning with the December 31, 2006 closing price and ending with the December 31, 2013 closing price. The first five explanatory variables are control variables which have been used in prior studies. LEV is the debt load a firm carries measured as the ratio of long-term debt to equity (Fama and French, 1992). Consistent with Fama and French (1992) and Liang and Lee (2012), we control for one of the significant factors in stock returns, the price-to-book ratios of firms (PBV). We expect higher debt and higher price-to-book ratios will be negatively related to share returns. Francis, Schipper, and Vincent (2003) demonstrate that earnings metrics dominate cash flow measures in explaining returns. We use return on equity (ROE) as our measure of earnings and expect firms generating higher profitability relative to shareholder investment would experience higher share returns, all other things constant. Firm size (SIZE), computed as the log of the total assets per share for each firm for the fiscal year, has been a significant and negative determinant of share returns in prior studies (Fama and French, 1992; and Keim, 1990). FCFPS is the per share amount of cash flow after deduction of capital expenditures and dividends, and has been important in explaining realized share returns (Davis, 1994). Shareholder yield (SHARYLD) is the sum of the buyback yield and the dividend yield.

In Equation 2, shareholder yield is disaggregated into its components to determine the relationships between dividend yield and buyback yield to share returns:

$$RET_t = \alpha + \beta_1 LEV_i + \beta_2 PBV_i + \beta_3 ROE_i + \beta_4 SIZE_i + \beta_5 FCFPS_i + \beta_6 DIVYLD_i + \beta_7 BUYBACKYLD_i + \varepsilon \quad (2)$$

Where,

$DIVYLD_i$ = ratio of dividends per share to price per share for firm i in year t, and

$BUYBACKYLD_i$ = percentage change in average number of outstanding shares for firm i in year t.

DIVYLD and BUYBACKYLD are taken from the database. DIVYLD is the average of the high and low dividend yields computed using the high and low prices for the year. The total sample consists of 3,254 U.S. firms in nine of the S&P 500 Index sectors for each year for 2007 to 2013. Financial corporations were excluded because the Federal Reserve has been restricting dividend payouts of commercial banks since 2008, and these firms have not had the managerial flexibility to pay or grow dividends. The companies included in the sample are those that are unrestricted in their decisions to pay dividends to shareholders. Foreign firms were also eliminated since the focus of this study is on the relationships between dividends, repurchases, and share returns of publicly-traded U.S. firms. The usable sample consists of 7 years of data (2007 through 2013) and included the same 2,042 firms for each year; and ordinary least squares regressions were run for each year.

EMPIRICAL RESULTS

Correlations and Sample Statistics

Tables 1 and 2 report the correlation coefficients and the summary statistics, respectively, for the dependent and explanatory variables for the 7-year period. Most of the correlations in Table 1 are very low, though shareholder yield is more highly related to buyback yield than dividend

yield. RET is slightly negatively correlated to both DIVYLD and to BUYBACKYLD; higher dividend yields and share repurchases during the seven-year period are associated with lower share returns. ROE is positively correlated with stock returns for the period. LEV is slightly negatively related to returns, while price-to-book ratio (PBV) is slightly positively related to returns implying that higher share prices (given book values) are associated with higher returns. Free cash flow (FCFPS) is positively correlated to returns and profitability as measured by ROE. SIZE is negatively related to returns during the period implying that smaller firm shares were associated with higher returns.

From Table 2, the mean return over the period was about 17% with a much larger standard deviation of 122.5%. For most of the explanatory variables, the standard deviations are noticeably greater than the means indicating wide variation in returns, leverage, price-to-book ratios, free cash flow per share, dividend yield, and buyback yield.

REGRESSION RESULTS BY MODEL AND BY YEAR

Model 1: Regression with Shareholder Yield

Table 3 presents the results of returns regressed against shareholder yield and the control variables for each year. The F statistic is significant at the 0.01 level for all years, with the intercept significant in all years except 2007. The significant, negative intercept in 2008 reflects the stock market decline in 2008; and the significant, positive intercepts for 2009-2013 are consistent with its revival in 2009 and after. LEV is statistically significant in all years except 2011, with positive coefficients for years 2009, 2010, 2012, and 2013. For those three years after the bear market of 2008, higher long-term debt loads relative to equity yielded higher share returns. During the initial years of the 2007 recession and declining stock market, higher leverage would lower returns. PBV is significant in four years (2008, 2009, 2011, and 2013) with positive coefficients except for 2009.

For 2009, returns for firms with higher share prices relative to book values would be lower. The coefficient for PBV in 2009 is much larger than for any year other year implying a large impact on returns by PBV as equities rebounded.

ROE is significant in most years (except for 2009) with the coefficients generally positive. We would expect that more profitable firms, all other factors constant, realized higher returns. For 2009 through 2013 SIZE is not only statistically significant, but has coefficients that are negative and large relative to that of the other explanatory variables. Larger firms would have had lower returns during these years, and SIZE has a much greater impact on returns than the other variables. This would imply that small companies experienced higher returns than larger firms during the years of market recovery since the stock decline of 2008. FCFPS has positive coefficients that are significant during the last four years of the period (higher free cash flows associated with higher returns).

Shareholder yield is statistically significant for 2007, 2010, 2012, and 2013 with a negative sign in all years. Higher payouts in the years before and after the recession of 2007 yielded lower returns. During 2008, the worst year for the stock market in the study, paying out funds to shareholders had no impact on returns. Companies that bought back shares (and may have paid dividends) would have a positive shareholder yield. Therefore, firms that decreased shares had lower returns in 2010, 2012, and 2013, though the impact on returns would be smaller compared to the firm size effect. Conversely, firms that increased the number of outstanding shares in excess of any dividends they paid (a net negative shareholder yield) would experience higher returns. For investors over the past seven years, the combination of share buybacks and dividends would either have no impact or a negative impact on share returns. Firm size would have overwhelmed the

impact on returns of share repurchases with firm profitability (measured by return on equity) contributing to returns as much as cash payouts to shareholders.

Model 2: Regression Results

In Table 4, SHARYLD is disaggregated into its two components to determine the impact of each components of shareholder yield on share returns. Similar to Model 1 results, the F statistic is significant at the 0.01 level as is the intercept; and the intercept is significant in each year except in 2007. The statistical significance of the control variables follows the results of Model 1 except for FCFPS which is significant only in the last three years of the period.

DIVYLD is significant in 2007, 2009, 2010, and 2012-13, all with negative signs. In terms of size of the coefficients, DIVYLD has a larger impact on share returns than the other variables except for SIZE. Both variables have negative signs suggesting that larger firms with higher dividend yields would have lower share returns. Buyback yield is significant in 2007, 2010, 2012, and 2013, with negative signs in all years. Given the construction of buyback yield in the database where firms that repurchase shares would have positive buyback yields, the regressions imply that such companies, all other factors the same, would experience lower returns. Consistent with the results from Model 1, firms that repurchase shares and pay dividends would have lower share returns. Dividend yield and firm size are the two most important factors to affect share return over the past seven years. Rather than enhancing return, the results show that repurchases by firms had a detrimental impact on share returns. The negative sign of DIVYLD may indicate that firms with low or no dividend payouts may have been in greater favor among investors and experienced higher returns.

Regression Results: Positive and Negative Buyback Yields

The sample was divided into firms with positive and negative buyback yields to determine the differential impact on share returns if companies bought or sold shares during the seven year period. Table 5 contains the results of regressions of DIVYLD and BUYBACKYLD for firms that bought back shares (positive buyback yields). The number of firms in the sample of 2,042 that had positive buyback yields in each year is denoted by N. The F statistic is significant at 0.01 level in all years except for 2010 with the intercept statistically significant in all years. SIZE is significant and negative except in 2007 and 2010; the values of the coefficients are not as large for firms repurchasing shares compared to the SIZE coefficient for the total sample. For firms that decreased the number of shares, DIVYLD is significant in only three years, 2009, 2012, and 2013 all with negative signs. Buyback yield is significant in only three years: 2007, 2009, and 2012. However, in 2009 the sign is positive implying that firms that repurchased shares in that year would have higher returns. In most years, buying back shares had either no impact or a negative impact. During the market "recovery" year of 2009, repurchasing shares had a positive impact on share returns.

Table 6 presents the regression results for firms with negative buyback yields (increasing shares outstanding) with N denoting the number of firms in the sample that had negative buyback yields. Consistent with the results for Model 1, the F statistic and the intercept are significant at the 0.01 level with the intercept significant in all years except 2007. Given the intercepts, 2008 returns for firms increasing shares were lower (that is, more negative) than for firms buying back shares. In 2009 and 2010, returns for such firms (205%) were much greater than for firms buying back shares (93%). The significance of PBV and ROE varies among the years with ROE having a positive coefficient in most years. FCFPS is statistically significant and positive for 2011

through 2013. DIVYLD is significant and negative in 2007, 2010, 2012, and 2013. BUYBACKYLD is negative and significant only in 2007, 2010, 2012, and 2013. The negative coefficient sign in combination with a negative buyback yield implies firms that increased shares outstanding in those four years had higher returns (and no impact on share returns in the other years). In general, the impact of increasing shares varies from year to year with firms that raise the number of shares benefiting from higher returns. However, dividend yield, if it is significant in any year, has had a detrimental impact on share returns. Again, size counts when it comes to share return; and for firms increasing shares, dividend yield and firm size have greater impact on returns than leverage, profitability, and free cash flow. The results indicate that for the years surrounding the market decline of 2008, dividends were more important in influencing share returns than changes in the number of shares outstanding, but in a negative way. For the period under study, investors may have shifted away from dividend-paying stocks to other strategies, possibly focusing on growth stocks. In other periods, dividends may have a positive impact on returns if investor preferences shift towards firms paying dividends.

CONCLUSIONS

The significance of dividend yield and share repurchases on stock returns from 2007 through 2013 is investigated using two metrics in the AAII Stock Investor database: shareholder yield and buyback yield. Shareholder yield is the sum of dividend yield and buyback yield, and buyback yield is the percentage change in outstanding shares of publicly traded firms for a given year. Firms with positive buyback yield have repurchased shares while those with buyback yields that are negative have increased shares outstanding. We examine the impact of return of capital to shareholders on share returns before, during, and after the stock market decline of 2008.

Examining annual returns for each year, we find that leverage and price-to-book ratios are statistically significant in most years when regressing shareholder yield against share return consistent with previous studies on share returns; however, the relationships are contrary to expectations. We also find that profitability is significant in most years and positively related to share return (the exception is 2013 where ROE is negative) Firm size is significant and negative in most years and has the largest impact on return. Shareholder yield is statistically significant in 2007, 2010 and 2012, and 2013 and is negatively related to share returns.

When shareholder yield is disaggregated into its components of dividend yield and buyback yield, we find that dividend yield is significantly and negatively related to returns in five of the seven years (2007, 2009, 2010, 2012, and 2013). Buyback yield is also significantly and negatively related to returns in four of those five years (2007, 2010, 2012, and 2013). Breaking the sample into subsamples of firms with positive and negative buyback yields reveals that repurchasing shares was significant only in 2007, 2009 and 2012. A positive buyback yield (decrease in shares) had a negative impact on returns in 2007 and 2012, but a positive impact on returns for 2009. Dividend yield is significant and negatively related to returns in 2009, 2012, and 2013. The results are similar for firms increasing shares; both dividend and buyback yields are negatively related to share returns in four out of seven years.

For the year leading up to the stock market decline and the bull market years following 2008, cash distributions to shareholders affected returns in some years, but not all. In 2008, market conditions probably were such that any benefit of returning capital would have been overwhelmed by the declining stock prices. In the years following 2008 market, dividends and share repurchases either were not significant in affecting share returns or the impact would have been negative. Firms repurchasing shares would have experienced decreased returns, except for 2009 when buybacks

would have enhanced returns. Firms increasing shares through sales or stock splits would have higher returns in some years, though the impact would have been muted by the negative effect of dividend payout. Dividend yield has a greater impact on share returns than changes in outstanding shares. The most important factor we find in affecting return is firm size with larger firms having lower returns relative to small firms. Regardless of size, cash distributions to shareholders through dividends or repurchases have generally had no effect or a negative effect on share returns.

REFERENCES

Akhigbe, A; D. Kim and J. Madura, 2007, Price Performance Following Share-Repurchase Announcements by Closed End Funds, *Financial Review*, 42:4, 537-555.

Ang, A. and G. Bekaert, 2007, Stock Return Predictability: Is It There? *The Review of Financial Studies*, 20:3, 651-707.

Bali, T. G., K. O Demirtas, and H. Tehranian, 2008, Aggregate Earnings, Firm-Level Earnings, and Expected Stock Returns, *Journal of Financial and Quantitative Analysis*, 43:3, 657-684.

Bierman, H., 2008, Dividends Versus. Share Repurchase: The Stock Price Effect, *Journal of Portfolio Management*, 34:4, 124-127.

Brau, J. C. and A Holmes, 2006, Why do REITs Repurchase Stocks? Extricating the Effect of Managerial Signalling in Open Market Share Repurchase Announcements, *Journal of Real Estate Research*, 28:1, 1-23.

Davis, J. L., 1994, The Cross-Section of Realized Stock Returns: The Pre-Compustat Evidence, *Journal of Finance*, 49:5, 1579-1593.

Fama, E.F. and D. French, 1992, The Cross-Section of Expected Stock Returns, *Journal of Finance*, 47:2, 427-465.

Francis, J., K. Schipper and L. Vincent, 2003, The Relative and Incremental Explanatory Power of Earnings and Alternative (to Earnings) Performance Measures for Returns, *Contemporary Accounting Research*, 20:1, 121-164.

Grullon, G. and R. Michaely, 2002, Dividends, Share Repurchases, and Substitution Hypothesis, -*Journal of Finance*, 62:4, 1649-1684.

Hulbert, M. 2013, Stock Buybacks Beat the Market, *www.marketwatch.com/story/stock-buybacks-beat-the-market -2013-05-03*.

Ikenberry, D. and G. Grullon, 2000, What Do We know About Stock Repurchases, *Journal of Applied Corporate Finance*, 13:1, 31-51.

Ikenberry, D., J. Lakonishok, and T. Vermaelen, 1994, Market Underreaction to Open Market Share Repurchases, *Journal of Finance Economics*, 39:2/3, 181-208.

Kallberg, J.G., C. Liu and A. Srinivasan, 2003, Dividend Pricing Models and REITs, *Real Estate Economics*, 31:3, 435-450.

Keim, D. B., 1990, A New Look at the Effects of Firm Size and E/P Ratio on Stock Returns, *Financial Analysts Journal*, 46:2, 56-67.

Liang, X and B. S. Lee, 2012, Do Decomposed Financial Ratios, Predict Stock Returns and Fundamentals Better? *Financial Review*, 47:3, 531-564.

Nayar, N., A.K. Singh and A.A. Zebedee, 2008, Share Repurchase Offers and Liquidity: An Examination of Temporary and Permanent Effects, *Financial Management*, 37:2, 251-270.

Online Investor, The, 2014, ww.theonlineinvestor.com/slideshow/?slideshow=buyback&page=3.

Pontiff, J. and A. Woodgate, 2008, Share Issuance and Cross-Sectional Returns, *Journal of Finance*, 63:2, 921-945.

Stephens, C.P. and M.S. Weisbach, 1998, Actual Share Reacquisitions in Open-Market Repurchase Programs, *Journal of Finance*, 53:1, 313-333.

Strumpf, Dan, 2014, Dividend Stocks Bear Fruit, *Wall Street Journal*, 263:80, C1-C2.

William, A. and M. Miller, 2013, Do Stocks with Dividends Outperform the Market During Recessions? *Journal of Accounting and Finance*, 3:1, 58-69.

Table 1

Correlation Coefficients

For the Period 2007-2013

	RET	LEV	PBV	ROE	SIZE	FCFPS	DIV YLD	BUYBACK YLD
RET								
LEV	-0.013							
PBV	0.016	0.013						
ROE	0.005	-0.020	-0.276					
SIZE	-0.057	0.362	-0.149	0.188				
FCFPS	0.028	-0.086	0.005	0.055	0.067			
DIV YLD	-0.057	0.197	-0.030	0.108	0.231	-0.107		
BUYBACK YLD	-0.017	-0.030	-0.003	0.144	0.057	0.073	-0.048	
SHARYLD	-0.024	-0.003	-0.007	0.158	0.088	0.059	0.087	0.991

Table 2

Sample Summary Statistics

For the Period 2007-2013

	RET (%)	LEV	PBV	ROE (%)	SIZE	FCFPS	DIV YLD (%)	BUYBACK YLD (%)	SHAR YLD (%)
Mean	17.31	56.08	2.78	6.83	3.01	0.43	1.57	-3.74	-2.18
Standard Deviation	122.56	88.78	8.45	31.36	1.05	5.82	2.83	21.02	21.08
Minimum	-98.0	0	0.13	-862.2	-3.13	-116.97	0	-902.1	-902.1
Maximum	10345.95	988.9	786.63	712.5	7.96	443.88	83.7	68.8	76.7

Table 3

Model 1

Share Return and Shareholder Yield

The table reports the OLS regression results for the each year from 2007 to 2013 with shareholder yield (SHARYLD) regressed against share return. Control variables include LEV (long-term debt to equity), PBV (share price to book value per share), ROE (return on equity), SIZE (log of total assets), and FCFPS (free cash flow per share). T-statistics are reported in parentheses.

Variable	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
INTERCEPT	-0.125 (-.032)	**-37.779** **(-18.97)***	**164.603** **(7.81)***	**57.541** **(14.99)***	**4.243** **(1.90)***	**25.879** **(7.43)***	**58.253** **(12.70)***
LEV	**-0.051** **(-3.66)***	**-0.039** **(-5.80)***	**0.183** **(2.38)***	**0.030** **(1.86)****	0.006 (0.61)	**0.055** **(4.60)***	**0.027** **(1.87)****
PBV	0.341 (1.52)	**0.692** **(9.91)***	**-2.47** **(-1.91)****	-0.227 (-0.72)	**0.680** **(13.27)***	-0.029 (-0.08)	**0.800** **(1.95)****
ROE	**0.199** **(6.64)***	**0.240** **(13.02)***	-0.242 (-1.08)	**0.207** **(4.36)***	**0.276** **(9.03)***	**0.096** **(2.45)****	**-0.089** **(-1.74)****
SIZE	-0.787 (-0.63)	-0.458 (-0.68)	**-32.72** **(-4.54)***	**-8.214** **(-6.63)***	**-2.281** **(-3.05)***	**-4.47** **(-4.27)***	**-10.249** **(-7.57)***
FCFPS	0.051 (0.49)	0.211 (1.59)	1.97 (1.34)	**0.369** **(1.66)****	**1.026** **(4.56)***	**0.890** **(4.51)***	**1.568** **(4.66)***
SHARYLD	**-0.098** **(-2.77)****	0.021 (.522)	-0.298 (-0.97)	**-0.227** **(-3.50)***	-0.024 (-0.78)	**-0.162** **(-3.02)***	**-0.498** **(-5.98)***
Adjusted R^2	0.03	0.11	0.01	0.03	0.10	0.02	0.07
F STATISTIC	11.716*	44.99*	4.420*	11.362*	38.026*	8.890*	27.492*

*significant at the 0.01 level
**significant at the 0.05 level
***significant at the 0.10level

Table 4

Model 2

Share Return, Buyback Yield, and Dividend Yield

The table reports the OLS regression results with Shareholder Yield disaggregated into its components of Dividend Yield (DIVYLD) and Buyback Yield (BUYBACKYLD). Results are reported for each year, 2007 through 2013. Control variables include LEV, PBV, ROE, SIZE, and FCFPS. T-statistics are reported in parentheses.

Variable	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
INTERCEPT	-0.106 (-0.028)	**-37.808** **(-18.97)***	**162.076** **(7.69)***	**56.444** **(14.74)***	**4.186** **(1.88)*****	**26.245** **(7.56)***	**59.395** **(13.03)***
LEV	**-0.044** **(-3.17)***	**-0.039** **(-5.66)***	**0.200** **(2.60)***	**0.038** **(2.34)****	0.006 (0.69)	**0.060** **(4.94)***	**0.033** **(2.25)****
PBV	0.320 (1.44)	**0.692** **(9.91)***	**-2.382** **(-1.84)*****	-0.189 (-0.60)	**0.684** **(13.31)***	0.005 (0.01)	**0.750** **(1.85)*****
ROE	**0.215** **(7.16)***	**0.240** **(13.02)***	-0.197 (-0.88)	**0.221** **(4.68)***	**0.279** **(9.08)***	**0.101** **(2.58)****	-0.052 (-1.03)
SIZE	-0.171 (-0.14)	-0.397 (-0.58)	**-29.290** **(-3.97)***	**-6.993** **(-5.52)***	**-2.156** **(-2.84)***	**-4.006** **(-3.81)***	**-9.174** **(-6.76)***
FCFPS	0.0132 (0.13)	0.202 (1.51)	1.51 (1.02)	0.231 (1.04)	**0.990** **(4.33)***	**0.767** **(3.84)***	**1.167** **(3.417)***
DIVYLD	**-1.708** **(-4.55)***	-0.074 (-0.37)	**-4.875** **(-2.26)****	**-2.355** **(-4.75)***	-0.282 (-1.04)	**-1.413** **(-4.22)***	**-3.813** **(-6.37)***
BUYBACK YLD	**-0.090** **(-2.56)***	0.024 (0.58)	-0.233 (-0.75)	**-0.213** **(-3.30)***	-0.025 (-0.80)	**-0.137** **(-2.53)***	**-0.468** **(-5.64)***
Adjusted R^2	0.04	0.11	0.01	0.04	0.10	0.03	0.09
F STATISTIC	12.779*	38.584*	4.454*	12.469*	32.716*	9.712*	28.387*

*significant at the 0.01 level
**significant at the 0.05 level
***significant at the 0.10 level

Table 5

Share Return, Buyback Yield, and Dividend Yield for Firms with Positive Buyback Yield

The table reports the OLS regression results with Shareholder Yield disaggregated into its components of Dividend Yield (DIVYLD) and Buyback Yield (BUYBACKYLD) for companies with positive buyback yield. Buyback yield will be positive if a firm repurchases shares during a year. Results are reported for each year, 2007 through 2013. Control variables include LEV, PBV, ROE, SIZE, and FCFPS. T-statistics are reported in parentheses. N is the number of firms in the sample with positive buyback yields in each year.

Variable	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
INTERCEPT	**-9.063 (-1.88)*** **	**-32.053 (-10.33)***	**93.207 (7.87)***	**43.377 (5.84)***	**8.768 (1.88)*** **	**36.139 (6.49)***	**51.129 (8.44)***
LEV	**-0.027 (-1.84)*** **	**-0.031 (-3.11)***	**0.174 (4.24)***	0.027 (0.93)	0.022 (1.30)	**0.056 (2.63)***	**0.078 (4.11)***
PBV	**-1.052 (-2.68)***	**0.420 (2.73)***	**-3.796 (-2.36)****	-0.609 (-0.62)	-0.578 (-1.10)	**-3.09 (-4.64)***	**-1.965 (-3.45)***
ROE	**0.362 (5.15)***	**0.252 (9.53)***	**-0.312 (-1.99)****	0.107 (0.93)	**0.407 (5.41)***	**0.357 (3.97)***	**0.392 (4.45)***
SIZE	1.419 (0.97)	**-2.402 (-2.48)****	**-12.135 (-3.19)***	-4.291 (-1.86)	**-3.024 (-2.17)****	**-4.73 (-2.90)***	**-6.736 (-3.93)***
FCFPS	-0.130 (-0.57)	**0.370 (1.86)*** **	0.582 (1.09)	0.103 (0.43)	**0.923 (2.47)****	**0.823 (3.46)***	**0.950 (2.27)****
DIVYLD	-0.416 (-0.70)	-0.342 (-1.01)	**-2.487 (-2.33)****	-1.155 (-1.30)	-0.524 (-1.30)	**-1.456 (-2.85)***	**-5.866 (-6.01)***
BUYBACK YLD	**-0.515 (-1.92)*** **	-0.008 (-0.04)	**1.355 (1.83)*** **	0.716 (1.36)	-0.060 (-0.20)	**-0.676 (-1.92)*** **	0.156 (0.32)
Adjusted R^2	0.05	0.12	0.05	0.004	0.07	0.04	0.08
F STATISTIC	5.901*	18.776*	7.403*	1.35	8.033*	5.739*	10.697*
N	684	903	814	562	665	805	734

*significant at the 0.01 level
**significant at the 0.05 level
***significant at the 0.10 level

Table 6

Share Return, Buyback Yield, and Dividend Yield for Firms with Negative Buyback Yield

The table reports the OLS regression results with Shareholder Yield disaggregated into its components of Dividend Yield (DIVYLD) and Buyback Yield (BUYBACKYLD) for companies with negative buyback yields. Buyback yield will be negative if a firm increases the number of shares during a year. Results are reported for each year, 2007 through 2013. Control variables include LEV, PBV, ROE, SIZE, and FCFPS. T-statistics are reported in parentheses. N is the number of firms in the sample with negative buyback yields in each year.

Variable	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
INTERCEPT	-0.899 (-0.17)	**-40.596** **(-14.83)***	**205.432** **(6.16)***	**60.061** **(13.21)***	**4.055** **(1.49)**	**20.260** **(4.51)***	**62.015** **(9.92)***
LEV	-0.054 (-2.76)*	**-0.044** **(-4.65)***	**0.209** **(1.75)*****	**0.043** **(2.18)****	0.004 (0.36)	**0.042** **(4.81)***	0.021 (1.02)
PBV	**1.081** **(3.23)***	**0.739** **(8.65)***	-1.889 (-1.06)	0.097 (0.27)	**0.684** **(11.55)***	**1.661** **(3.24)***	**1.391** **(2.32)****
ROE	**0.284** **(7.00)***	**0.230** **(8.75)***	0.063 (0.18)	**0.290** **(4.91)***	**0.275** **(7.11)***	**0.134** **(2.72)***	-0.084 (-1.20)
SIZE	0.440 (0.26)	0.994 (1.02)	**-40.05** **(-3.46)***	**-7.984** **(-5.27)***	**-2.217** **(-2.31)****	**-3.790** **(-2.77)***	**-10.430** **(-5.56)***
FCFPS	0.044 (0.36)	0.158 (0.87)	2.956 (0.87)	0.685 (1.36)	**1.034** **(3.45)***	**0.972** **(2.71)***	**1.201** **(2.49)****
DIVYLD	**-2.077** **(-4.45)***	-0.025 (-0.92)	-5.528 (-1.62)	**-2.589** **(-4.31)***	-0.121 (-0.32)	**-1.420** **(-3.21)***	**-3.220** **(-4.28)***
BUYBACK YLD	**-0.071** **(-1.73)*****	0.057 (1.17)	-0.069 (-0.17)	**-0.202** **(-2.94)***	-0.026 (-0.78)	**-0.145** **(-2.48)****	**-0.451** **(-4.69)***
Adjusted R^2	0.05	0.11	0.01	0.05	0.10	0.05	0.10
F STATISTIC	11.074*	21.635*	2.797*	12.169*	23.844*	9.517*	21.024*
N	1358	1139	1228	1480	1377	1237	1308

*significant at the 0.01 level
**significant at the 0.05 level
***significant at the 0.10 level