DIVIDEND POLICY AND STOCK PRICE VOLATILITY IN THE U.S. EQUITY CAPITAL MARKET

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ABSTRACT

What factors affect the volatility of a stock's price over time? What specific financial factors lead a stock to be more volatile than others? This study attempts to identify the impact of certain financial variables on the volatility of a stock's price overtime by analyzing the financial data of over 500 publicly traded firms found through the Value Line Investment Survey database using Ordinary Least Squares (OLS) Regression. The study tests the effects of financial variables (deemed appropriate by the finance literature) on stock price volatility (as measured by the stock's standard deviation) for a sample of firms screened from the Value Line Investment Survey database. By analyzing these selected financial factors on a large sample of firms, this study will also identify those financial variables that have proven historically significant in explaining stock price volatility. The study results add to the body of dividend policy literature by either supporting or rejecting the theories advanced in the literature.

INTRODUCTION

The year 2011 was marked with high volatility in all areas of the United States equity markets. Evidence of this volatility was found with fluctuations of upwards of 300 basis points on the Dow Industrial Average, which were not out of the ordinary for a single trading day. With the stock market crash in late 2008 still looming in investors' minds, their leniency for an underperforming market was at a bare minimum. Those who had the risk tolerance to stay in stocks looked to find safe havens to shelter themselves, while the global economy resolved its many macroeconomic issues. (Hussainey, 2011) One trend that gained much attention was the flow of funds into companies that paid a healthy dividend. Furthermore, the belief was that investing in these equities, known to have a strong dividend, meant that the stock was safer and more stable. The investors' logic being that if the market would again turn for the worse, they would at least be able to collect a dividend check. Investors are by nature risk averse, and the volatility of their investments is important to them because it is a measure of the level of risk they are exposed to. (Hussainey, 2011)

Volatility is the rate of change in the price of a security over a given time period and, consequently, the greater the volatility the greater the risk of substantial gain or loss. If a stock is labeled as volatile, it is more difficult to forecast what the company's future share price will be. Likewise, many investors prefer stocks that support more predictable earnings and therefore carry less risk.

The issue of whether or not dividend policy has a relationship with share price volatility has been a topic of intense debate for many years. The decision of whether or not to distribute earnings to shareholders or to divest this money back into the firm has left the opportunity for many finance scholars and professionals to examine its various effects. Many academic works have provided evidence that both support and reject the idea that dividends reduce stock price volatility. Some argue that dividends signal to investors that the company is operating effectively, while others argue that when all other variables are fixed, the payout of dividends does not effectively reduce the stocks volatility. This research analyzes how well the payout of dividends reflects the volatility of a company's stock price when compared to the relationship that other related variables have on price volatility. This study will provide a deeper understanding on the true correlation between a company's dividend policy and stock price volatility. The study will further investigate whether a company's dividend policy is the best indicator of a less volatile stock, that can reassure them of a safe and stable investment.

PURPOSE

The purpose of this study is to test my hypothesis that the payout of a dividend does in fact have a negative correlation with the stock's price volatility and that it has the most significant correlation when compared to other variables. This negative correlation would convey that the higher the percentage payout, the less the stock price's volatility will be. The regression will also test my hypotheses that certain selected variables also have their respective effects on price volatility and the significance of their correlation will also be found. My hypothesized effects of each variable are represented in the Methodology section of my thesis. A diverse sample of 599 companies listed in the S&P 500 will be examined over the course of three years. The results will be acquired by taking an Ordinary Least Squares Multiple Regression implemented by Habib, Kiani, & Khan (2012) where stock price volatility is regressed against selected independent variables such as firm size, asset growth, financial leverage, size, dividend yield, and payout ratio. The subsequent literature will also further justify the significance of these selected variables and the role they play in price volatility.

LITERATURE REVIEW

Dividend policy, put simply, is described as a firm's strategy with regards to paying out earnings as dividends versus retaining them for reinvestment in the firm. It is the division of profit between payments to shareholders and retained earnings on the balance sheet. Dividend policy is thus an important part of the firm's long-run financing strategy. Three dividend policies have emerged the most widely supported throughout the finance community.

The first largely supported approach is the Smoothed Residual Dividend Policy. The basis for this policy is that the annual/quarterly change in the dollar amount of the dividend is kept to a minimum. Companies who use this policy tend to delay any major changes to the dollar amount of their dividends paid to investors and do not react to short term changes in earnings. Being that these temporary changes in earnings can fluctuate drastically, the payout ratio for the particular firm can swing dramatically. This being said, the dividend per share is kept stable and is only altered if the long term profitability forecast of the firm has been adjusted.

The second dividend policy is referred to as the Pure Residual Dividend Policy. This policy, which puts a large emphasis on fundamental analysis, looks at the comparison between a firm's return on equity and the rate of return that an investor could achieve when they invested the dividend in an alternative venture. The policy states that if the firm can achieve a higher return on equity than an equally risky investment could achieve in the market, investors would rather the company reinvest or plowback that dividend rather than pay it out. Once a firm has determined their optimal capital budget and the appropriate capital has been allocated to internal investments, the remaining residual funds can then be used to payout a dividend accordingly. Being that this policy's affect on the amount of dividend payout changes quarterly with the amount of earnings the firm produces, the dollar amount of paid out funds to investors can fluctuate immensely.

The third dividend policy that is widely utilized is the Constant Payout Residual Dividend policy. This policy incorporates the idea that a company should work to ensure that the payout ratio remains constant. To ensure that the payout ratio remains constant, management must adjust the dollar amount of dividends paid out according to the quarterly earnings results. This theory differs from the aforementioned Pure Residual Dividend Policy, because there is no consideration of whether or not the firm can obtain a higher rate of return than that of an alternative investment of equal risk that their investors could achieve in the market.

It is important that the issues behind the payout of a dividend both from management's perspective and the investor's perspective be addressed, being that investors and corporate executives alike have a common interest in a positively performing stock. When the affects of the payout of dividends on the corporate balance sheet are added to the investors' perception of the payout or non-payout of a dividend, investors can then begin to predict how the stock price will behave. For a more comprehensive look at the corporate divided decision, refer to the work done by Alli, Khan, & Ramirez (1993) and Habib, Kiani, & Khan (2012).

There have been many professional and academic studies that have looked at the relationship between dividend policy and stock price risk and several theories supporting their findings have been created.

In Miller and Modigliani's(MM) Dividend Irrelevance theory, they suggest that dividend policy is immaterial to shareholder wealth. They explain that when all other aspects of investment policy are fixed, the gains that an investor might experience through dividends will result through capital gains if reinvested in the firm. The MM Theory states that shareholder wealth will remain unaffected by dividend policy, in that without tax as a consideration, investors place equal weight in receiving returns as dividends or capital gains as long as the firm's investment strategy is not affected by dividend policy (Shapiro 1956).

Another finance scholar, Al-Malkawi (2007), suggested through his Bird-in-the-Hand Theory, that dividends are worth more than retained earnings to investors, citing the uncertainty of future cash flows. This theory argues that even though, in theory, investors might be indifferent to receiving a dividend or capital gain, most investors are risk-averse and the payout of dividends lends a more clear and predictable return of their capital.

Supporting this idea is Al-Malkawi's Signaling Hypothesis, which looked at dividends as a way to bridge the information gap between management and investors. It is unrealistic to believe that investors and corporations have an equal amount of data and knowledge on the financial strength of the firm and, because of this truth; companies choose to payout a dividend to send a signal to their investors that their firm is financially stable and remains profitable.

It is important to be aware of the literature that has been written on dividend policy because the methods for paying out dividends and the perception of those decisions are very important. Although this study focuses on the correlation between dividend policy and stock price volatility, it is relevant to acknowledge the factors that influence the dividend decision and the perception that investors can have on these decisions.

RELATED STUDIES

When reviewing previous studies conducted on the relationship between dividend policy and stock price volatility, it was deemed necessary to also review studies that investigated the factors and variables that also could have an effect on the price volatility of a given equity. In doing this, not only were prior opinions on how dividends affect the performance of the stock found, but the previous opinions on how other related variables are correlated to stock price risk were also found.

Because the more recent studies that have been conducted have cited Baskin (1989), it is appropriate that his work be mentioned first. What Baskin set out to accomplish was to, not only figure out if dividend yield was a proxy for price volatility, but whether or not dividend yield had a direct effect on the volatility of a common stock's price when other related factors were controlled. Baskin concluded his study by acknowledging that dividend yield among other factors certainly had a defined correlation with the volatility of a given stock price, but could not conclude that dividend yield had a direct cause and effect relationship with price volatility.

In a study conducted by Hussainey, Mgbame, Chijoke-Mgbame, & Aruoriwo (2011), the objective was to find the relationship and affects that dividend policy had on a given stock's volatility in the developed economy of England. During the study they also ran regressions between certain factors that could affect the volatility such as size and leverage. In their study they discovered that both the payout ratio and dividend yield had significant negative relationships to stock volatility. Further, a negative relationship was found between size and volatility and a positive relationship between leverage and volatility. They cited that through their finding they show that the larger a company was (in assets), the less volatile the stock tended to be. They also pointed out a trend that as financial leverage (debt carried on the balance sheet) increased, the volatility of the stock price tended to increase as well. This study made it evident that other variables would need to be controlled if someone was to attempt to get a true correlation between dividend policy and stock price volatility.

Another study was done by Allen & Rachim (1996), which looked at a similar relationship but used the Australia stock exchange as their target market. In their study they found, similar to Hussainey, Mgbame, Chijoke-Mgbame, & Aruoriwo's (2011) findings, that a firm's financial leverage had a large positive correlation to price volatility. In addition to this, they also found that earnings volatility, or the change in quarterly earnings per share had a substantial positive correlation. They cited that this finding was not surprising but sensible in the least. Allen & Rachim went on to find a significant negative correlation between dividend yield and price volatility. A&R pointed out that, because of the high similarity between dividend yield and payout ratio, the decision was made to drop the dividend yield as a variable and focus towards the payout ratio. They ended their research quoting that, even though the effects of payout ratio did have a certain level of correlation with price volatility, they felt that the findings were not substantial enough to warrant causation.

An additional study was done by Nazir, Nawaz, Anwar, & Ahmed (2010). In their study they chose to look at variables that the above theses had investigated, but in their examination chose to conduct their research in an emerging market. Their reasoning for choosing an emerging market,

being that emerging economies tend to have a substantial amount of market risk or overall volatility that cannot be diversified away, making the importance of an indicator of reduced risk much more important. One of the findings that they felt was most interesting was, where in developed markets size and leverage as a variable tend to be highly correlated with price volatility, in the emerging market environment these two variables had less of a significance when it came to determining the volatility of a company's common stock price volatility. This difference shows that not only do these variables have an effect on price volatility, but they also have different influences when they are investigated in different market settings.

An added study done by Farroq, Saoud, & Agnaou (2012), took the above idea a step further. In this study they, not only observed the effects of dividend policy in an emerging market, but they also looked at the differing affects in diverse market conditions. More specifically, they observed the effects of dividend policy on stock price volatility both, in a period of market growth and market stability. In their findings they discovered that the effects of dividend policy can be much less significant in times of economic growth. They cite the reasoning that in times of high market returns, investors are less prone to be concerned about a relatively small dividend payout when compared to the much larger capital appreciation of the stock price. Their findings show that the effects of dividend policy can vary with both market size and the market's economic cycle. This makes it clear that when observing the findings of different studies conducted on dividend policy's effects on price risk, you must take into consideration both the stage of the economic cycle and size of the market's economy of which the study is being conducted.

This review of prior studies investigating the relationship between dividend policy and price volatility provides a solid base and historic snap-shot of some of the findings from finance scholars across the globe. It is clear that there is a non-conclusive harmony being expressed by the many finance scholars that have been reviewed above. While it is apparent from prior literature that the effects of dividend policy on price volatility are worth acknowledging, the significance of its correlation is still up for debate. Further, the additional variables to be tested invite further research as to their respective correlation to stock price volatility. These studies make it evident that a diverse collection of common stocks will need to be collected and examined to gain a true representation of the United States equity market. The literature also shows that this research, which focuses on the United States equity market in the unique economic environment that was 2010-2012, is necessary and appropriate.

METHODOLOGY

The needed panel data for this study will be collected from Value Line Investment Survey's database. A diverse collection of publicly traded companies will be examined including mega-cap, large-cap, and Mid-cap stocks, to ensure the most accurate results necessary, as well as the most exact representation of the S&P 500. Outliers will also be included in this research, which include stocks that distribute a relatively large dividend of over 10%. The regression that I will be modeling my research on will be provided by previous research done by Habib, Kiani, & Khan (2012). The Ordinary Least Squares Multiple Regression function for my research can be found below. Note that these functions are estimates and are subject to change.

$$\textbf{Share Price Volatility(PV)}_j = a_1 + a_2\ \textbf{Dividend Yield} + a_3\ \textbf{Payout Ratio} + a_4\ \textbf{Size} + a_5\ \textbf{Long-term Debt} + a_6\ \textbf{Growth} + e_j$$

Share Price Volatility (PV): Dependent variable in regression. The volatility will be calculated by taking the standard deviation of a given stock price over a 3 year period.

Dividend Yield(DY): Calculated by summing the quarterly cash dividends paid to common stock holders and then dividing the sum by the average market value of the stock during the quarter. If, for a given firm, dividends are not paid out on a quarterly schedule, the annual dividend will be used.

Payout Ratio(POR): The total cumulative individual company earnings and dividends will be collected for representative years. The payout is the ratio of cash dividends divided by the net income that is available to common stockholders.

Size (SZ): The average market value of each company will be taken.

Long-Term Debt (DA): The ratio of the sum of all long-term debt to capital will be taken for participating firms. This will measure the extent that the company is financially leveraged.

Growth (G): A growth measurement will be calculated by using the growth in book value over the representative years.

VARIABLES	**DEFINITIONS**	**HYPOTHESIZED SIGN**
STOCK PRICE VOLATILITY	$\left[\frac{\text{(High Price-Low Price)}}{2}\right]$	DEPENDENT VARIABLE
DIVIDEND YIELD	Dividend/Market Value	NEGATIVE
PAYOUT RATIO	Dividend per Share/Earnings Per Share	NEGATIVE
SIZE	Share Price x # Shares Outstanding	NEGATIVE
LEVERAGE	Long-term debt/ Total Assets	POSITIVE
GROWTH	Change in total assets from beginning of quarter to end of quarter	POSITIVE

Companies to be Tested :

3M Company	Aqua America	Bristol-Myers Squibb	Cliffs Natural Res.
AAR Corp.	Archer Daniels Midl'd	Bristow Group	CME Group
Aaron's Inc.	Arkansas Best	Broadcom Corp. 'A'	CMS Energy Corp.
Abercrombie & Fitch	Ashland Inc.	Brown & Brown	CNA Fin'l
ABM Industries Inc.	Assoc. Banc-Corp	Brown Shoe	Coach Inc.
Actuant Corp.	Assurant Inc.	Brown-Forman 'B'	Coca-Cola Bottling

Acuity Brands
ADTRAN, Inc.
Advance Auto Parts
Aetna Inc.
Aflac Inc.
AGL Resources
Air Products & Chem.
Airgas Inc.
Albany Int'l 'A'
Albemarle Corp.
Allegheny Techn.
Allergan, Inc.
ALLETE
AllianceBernstein Hldg.
Alliant Energy
Alliant Techsystems
Allstate Corp.
Altria Group
AMCOL Int'l
Amer. Elec. Power
Amer. Express
Amer. Financial Group
Amer. Greetings
Amer. States Water
Amer. Water Works
Ameren Corp.
Ameriprise Fin'l
Ametek, Inc.
Amgen
Amphenol Corp.
Analog Devices
Aon plc
Apache Corp.
Apogee Enterprises
Applied Materials
AptarGroup
Atlantic Tele-Network
Atmos Energy
Autoliv, Inc.
Avista Corp.
Avon Products
B&G Foods
Baker Hughes
Ball Corp.
BancorpSouth
Bank of Hawaii
Bank of New York Mellon
Bard (C.R.)
Barnes Group
Bassett Furniture
Baxter Int'l Inc.
BB&T Corp.
Beam Inc.
Becton, Dickinson
Belden Inc.
Belo Corp. 'A'
Bemis Co.
Berkley (W.R.)
Berry Petroleum `A'
Best Buy Co.
Big 5 Sporting Goods
Black Box
Black Hills
BlackRock, Inc.
Block (H&R)
Blyth Inc.
Bob Evans Farms
Boeing
BOK Financial
Brady Corp.
Briggs & Stratton
Brink's (The) Co.
Brunswick Corp.
Buckeye Partners L.P.
Bunge Ltd.
CA, Inc.
Cabot Corp.
Cabot Oil & Gas 'A'
Cal-Maine Foods
Calavo Growers
California Water
Campbell Soup
Capital One Fin'l
CapitalSource
Carlisle Cos.
Carriage Services
Cascade Corp.
Casey's Gen'l Stores
Cash Amer. Int'l
Caterpillar Inc.
CBS Corp. 'B'
CEC Entertainment
Cedar Fair L.P.
CenterPoint Energy
CenturyLink Inc.
CF Industries
CH Energy Group
Chemed Corp.
Chemical Financial
Chesapeake Energy
Chubb Corp.
Church & Dwight
CIGNA Corp.
Cimarex Energy
Cincinnati Financial
Cintas Corp.
City National Corp.
CLARCOR Inc.
Colgate-Palmolive
Comcast Corp.
Comerica Inc.
Commerce Bancshs.
Commercial Metals
Computer Sciences
Comtech Telecom.
Con-way Inc.
ConAgra Foods
ConocoPhillips
CONSOL Energy
Consol. Communic.
Consol. Edison
Cooper Cos.
Cooper Inds.
Cooper Tire & Rubber
Copano Energy
Corning Inc.
Costco Wholesale
Covanta Holding Corp.
Cracker Barrel
Crane Co.
Crawford & Co. 'B'
CSX Corp.
CTS Corp.
Cubic Corp.
Cullen/Frost Bankers
Cummins Inc.
Curtiss-Wright
CVS Caremark Corp.
Cytec Inds.
Daktronics Inc.
Danaher Corp.
Darden Restaurants
Deere & Co.
Dentsply Int'l

Diamond Offshore	First Niagara Finl Group	Hawaiian Elec.	Joy Global
Dick's Sporting Goods	FirstEnergy Corp.	HEICO Corp.	Kaman Corp.
Diebold, Inc.	FirstMerit Corp.	Heinz (H.J.)	Kellogg
Dillard's, Inc.	FLIR Systems	Helmerich & Payne	Kemper Corp.
Disney (Walt)	Flowers Foods	Hershey Co.	KeyCorp
Dominion Resources	Flowserve Corp.	Hess Corp.	Kimberly-Clark
Donaldson Co.	Fluor Corp.	HNI Corp.	Kinder Morgan Energy
Donnelley (R.R) & Sons	Flushing Financial	Home Depot	Knight Transportation
Dover Corp.	FMC Corp.	Hormel Foods	Kohl's Corp.
Dow Chemical	Forward Air	Horton D.R.	Kroger Co.
DST Systems	Franklin Electric	Hubbell Inc. 'B'	Kronos Worldwide
DTE Energy	Franklin Resources	Humana Inc.	L-3 Communic.
Du Pont	Fred's Inc. 'A'	Hunt (J.B.)	Laclede Group
Dynamic Materials	Freep't-McMoRan C&G	Huntington Bancshs.	Landauer, Inc.
Eagle Materials	Frontier Communic.	Huntsman Corp.	Legg Mason
EarthLink, Inc.	Fuller (H.B.)	IAC/InterActiveCorp	Leggett & Platt
East West Bancorp	G't Plains Energy	IDACORP, Inc.	Lennar Corp.
Eastman Chemical	Gallagher (Arthur J.)	IDEX Corp.	Lexmark Int'l `A'
Eaton Corp.	Gannett Co.	Illinois Tool Works	Lilly (Eli)
Eaton Vance Corp.	Gap (The), Inc.	Ingersoll-Rand	Limited Brands
Edison Int'l	Gardner Denver	Ingles Markets	Lincoln Elec Hldgs.
El Paso Electric	GATX Corp.	Ingredion Inc.	Lincoln Nat'l Corp.
EMCOR Group	Gen'l Dynamics	Int'l Game Tech.	Lindsay Corp.
Emerson Electric	Gen'l Mills	Int'l Paper	Linear Technology
Empire Dist. Elec.	Genuine Parts	Int'l Speedway 'A'	Lockheed Martin
Energen Corp.	Glatfelter	Integrys Energy	Loews Corp.
Energy Transfer	Global Payments	Intel Corp.	Lowe's Cos.
Ensco plc	Goldman Sachs	InterDigital Inc.	M&T Bank Corp.
Entergy Corp.	Graco Inc.	Interface Inc. 'A'	M.D.C. Holdings
Enterprise Products	Grainger (W.W.)	Interpublic Group	Macquarie Infrastructure
EOG Resources	Granite Construction	Intersil Corp. 'A'	Macy's Inc.
EQT Corp.	Greif, Inc.	Invacare Corp.	Magellan Midstream
Equifax, Inc.	Group 1 Automotive	Iron Mountain	Manitowoc Co.
ESCO Technologies	Guess Inc.	ITC Holdings	Manpower Inc.
Ethan Allen Interiors	Halliburton Co.	ITT Corp.	ManTech Int'l 'A'
Everest Re Group Ltd.	Hancock Holding	J&J Snack Foods	Marathon Oil Corp.
Exelon Corp.	Hanover Insurance	Jabil Circuit	Marcus Corp.
Fair Isaac	Harley-Davidson	Janus Capital Group	Marriott Int'l

Family Dollar Stores	Harris Corp.	Jarden Corp.	Marsh & McLennan
Federated Investors	Harris Teeter Super.	Jefferies Group	Martin Marietta
FedEx Corp.	Harsco Corp.	Johnson Controls	Masco Corp.
Fifth Third Bancorp	Hartford Fin'l Svcs.	Jones Group (The)	Matson, Inc.
First Commonwealth	Hasbro, Inc.	Jones Lang LaSalle	Mattel, Inc.
Matthews Int'l	Northeast Utilities	Pool Corp.	Schlumberger Ltd.
MAXIMUS Inc.	Northern Trust Corp.	Potlatch Corp.	Schnitzer Steel
McCormick & Co.	Northrop Grumman	PPG Inds.	Schulman (A.)
McDonald's Corp.	Northwest Bancshares	PPL Corp.	Schwab (Charles)
McGraw-Hill	Northwest Nat. Gas	Praxair Inc.	Schweitzer-Mauduit Int'l
McKesson Corp.	NorthWestern Corp.	Precision Castparts	Scotts Miracle-Gro
MDU Resources	Nu Skin Enterprises	PriceSmart	Selective Ins. Group
MeadWestvaco	Nucor Corp.	Principal Fin'l Group	Sempra Energy
Medicis Pharmac.	NutriSystem Inc.	PrivateBancorp	Sensient Techn.
Medtronic, Inc.	NV Energy Inc.	Progressive (Ohio)	Service Corp. Int'l
Men's Wearhouse	Occidental Petroleum	Protective Life	Shenandoah Telecom.
Mercury General	Oceaneering Int'l	Prudential Fin'l	Sherwin-Williams
Meredith Corp.	OGE Energy	Public Serv. Enterprise	Sigma-Aldrich
MetLife Inc.	Old Nat'l Bancorp	PVH Corp.	Silgan Holdings
MGE Energy	Olin Corp.	PVR Partners, L.P.	SJW Corp.
Microchip Technology	Omnicare, Inc.	Quaker Chemical	SkyWest
Middlesex Water	Omnicom Group	Quest Diagnostics	Smith (A.O.)
Miller (Herman)	ONEOK Inc.	Questar Corp.	Smucker (J.M.)
Mine Safety Appliance	Otter Tail Corp.	Ralph Lauren	Snap-on Inc.
Minerals Techn.	Owens & Minor	Range Resources Corp.	Snyder's-Lance
Molex Inc.	Oxford Inds.	Raymond James Fin'l	Sonic Automotive
Mondelez Int'l	PACCAR Inc.	Rayonier Inc.	Sonoco Products
Monro Muffler Brake	Packaging Corp.	Raytheon Co.	Sotheby's
Monsanto Co.	Pall Corp.	Regal Beloit	South Jersey Inds.
Mosaic Company	Park National	Regions Financial	Southern Co.
Mueller Inds.	Patterson Cos.	Reinsurance Group	Southwest Airlines
Murphy Oil Corp.	Peabody Energy	Reliance Steel	Southwest Gas
Myers Inds.	Penske Auto	Rent-A-Center	Spartan Stores
National Fuel Gas	Pentair, Ltd.	Republic Services	Speedway Motorsports
National Oilwell Varco	People's United Fin'l	Robbins & Myers	SPX Corp.
Neenah Paper	Pep Boys	Robert Half Int'l	St. Jude Medical
New Jersey Resources	Pepco Holdings	Rock-Tenn 'A'	Stage Stores
New York Community	PerkinElmer Inc.	Rockwell Automation	Standard Motor

NewMarket Corp.
Newmont Mining
News Corp.
NextEra Energy
NIKE, Inc. 'B'
NiSource Inc.
Noble Energy
Nordson Corp.
Nordstrom, Inc.
Norfolk Southern
Stryker Corp.
Suburban Propane
SunTrust Banks
SUPERVALU INC.
Susquehanna Bancshs.
Synovus Financial
Sysco Corp.
Target Corp.
TCF Financial
TD Ameritrade Holding
TECO Energy
Telephone & Data
Tennant Co.
Texas Instruments
Texas Roadhouse
Textron, Inc.
Tidewater Inc.
Tiffany & Co.
Time Warner
Time Warner Cable
Timken Co.
Titan Int'l
Wausau Paper
Webster Fin'l
WellPoint, Inc.
Wendy's Company
PetSmart, Inc.
PG&E Corp.
Piedmont Natural Gas
Pioneer Natural Res.
Plains All Amer. Pipe.
Plantronics Inc.
Plum Creek Timber
PNC Financial Serv.
PNM Resources
Polaris Inds.
Universal Corp.
Universal Forest
Universal Health Sv. `B'
UNS Energy
Unum Group
US Ecology
V.F. Corp.
Vail Resorts
Valero Energy
Valmont Inds.
Vectren Corp.
Viacom Inc. 'B'
Viad Corp.
Village Super Market
Virgin Media
Vulcan Materials
Wabtec Corp.
Walgreen Co.
Washington Post
Waste Connections
Waste Management
Watts Water Techn.
Rockwell Collins
Roper Inds.
Ross Stores
Royal Caribbean Cruises
RPC Inc.
Ryder System
Ryland Group
Safeway Inc.
Sanderson Farms
SCANA Corp.
Xcel Energy Inc.
Xerox Corp.
Xilinx Inc.
Yum! Brands
Zions Bancorp.
Prod.
Stanley Black & Decker
Staples, Inc.
Starbucks Corp.
Starwood Hotels
State Street Corp.
Steel Dynamics
Steelcase, Inc. 'A'
STERIS Corp.
Stewart Enterpr. 'A'
Strayer Education

West Pharmac. Svcs.
Westar Energy
Westlake Chemical
Weyerhaeuser Co.
WGL Holdings Inc.
Whirlpool Corp.
Whole Foods Market
Wiley (John) & Sons
Williams Cos.
Williams Partners L.P.

QUANTITATIVE TESING AND FINDINGS

REGRESSION RESULTS

VARIABLES	BETA COEFFICIENT	HYPOTHESIZED SIGN
Stock Price Volatility	NA	DEPENDENT VARIABLE
Dividend Yield	-2.503475361**	Negative
Payout Ratio	0.00020516	Negative
Size	-0.000125975**	Negative
Leverage	-0.03487033**	Positive
Growth	-0.17675827**	Positive
R Square : 0.217228919		
Adj. R Square : 0.210694937		

** Significant at the 5% level

The multivariate regression analysis indicates that the following variables relate negatively to the volatility of the stock price as hypothesized and are also significant at the 5% level: Dividend Yield and Size(Mkt. Cap). Financial leverage and growth both produced an unanticipated, negative relationship with the volatility of the stock price. Lastly, payout ratio produced a positive relationship but was deemed insignificant. Of the 5 independent variables tested, two produced

the anticipated relationship with the stock price volatility and were mostly significant at the 5% level. Two of the five variables produce contrary signs with stock price volatility, but were still considered significant. The adjusted r^2 indicates that 21% of the volitility in the stock price is explained by the independent variables tested.

CONCLUSION

This study empirically examined the data for a sample of 599 firms taken from the Value Line Investment Survey Database to assess the impact of selected financial variables on overall volatility in a given stock price using OLS Regression. The study used a given stock's standard deviation as the dependent variable to represent the stock's volatility. Independent variables tested include: dividend yield, payout ratio, size, leverage, and growth. As hypothesized by the literature, dividend yield and size related negatively to the stock's price volatility. Contrary to the literature, leverage and growth both varied negatively with stock price volatility. The positive relationship observed between the payout ratio and the stock price volatility produced anomalous results.

As expected, results suggest that the higher the firm's dividend yield, the lower is it's stock price volatility. This result supports the findings presented in Al-Malkawi's Signaling Hypothesis and further implies the importance of dividend cash flow as a signaling device to stockholders as is evident in the sample. Also, the negative correlation found between firm size and stock price volatility supports the findings made by Hussainey et al., who found that as the market capitalization of a company increased, the volatility of their corresponding stock price decreased. These results support the idea idea that large dividend paying stocks are in fact less risky to own as an investment. Going forward, an investor would be advised to keep these variables in mind as the United States equity markets continue to hold large amounts of volatility and risk.

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