The Impact of Dividend Policy on Share Price Volatility: Empirical Evidence from Jordanian Stock Market

Fawaz Khalid Al-Shawawreh

Finance and Banking Department, Faculty of Business Administration,Mutah University, P.O.Box: (7) Postal
Code: (61710), Karak - Jordan
* E-mail of the corresponding author: fawaz_shawawreh@yahoo.com

Abstract
The purpose of this study was to examine the relationship between dividend policy and share price volatility with a focus on companies represent four sectors listed in Jordanian stock market. For this purpose, a sample of 53 companies listed in main market of Bursa Amman were selected and the relationship between share price volatility with two main measurements of dividend policy, dividend yield and payout ,were examined by applying multiple regression for a period of 13 years from 2001 to 2013. The primarily regression model was expanded by adding control variables including size, stock repurchase, and stock dividend. The empirical results of this study showed significant negative relationship between share price volatility with dividend payout and a very weak positive relationship between dividend yield and share price volatility. Moreover, a significant positive relationship between share price volatility and size is found. Based on findings of this study, dividend payout and stock dividend have most impact on share price volatility amongst predictor variables.
Keywords: Price volatility, dividend yield, dividend payout ratio, size, stock repurchase, and stock dividend..

1. Introduction

The dividend decision is the most important decision that the managers may take. This decision is influencing the primary aim of shareholders which is maximizing their wealth through taking the dividend. So the companies are required to balance between pay ratio and retention ratio Khan et al, (2011) especially in small and new companies.

Dividend policy got attention in 1956 with the work of Lintner (1956). He showed that U.S companies tended to increase dividend when they believe that there is a constant growth in their net income. Subsequently, Modigliani and Miller (1961) put the theoretical foundation of dividend policy research. They argue that, when the dividend is constant, it has no impact on the firm's value. In addition, the effect of firm's dividend policy on the current price volatility is of interest not only to the corporate, but also to investors and economists. However, it is important to indicate that there are various methods used by companies to distribute their profits and the most common methods are cash dividend, bonus share (stock dividend), Buy back of shares (Ross, et al. 1999: 460-461). In some cases, the companies may distribute their products, securities or certain investments. Instead of paying dividend, the companies can use their cash to repurchase shares which have certain of benefits for companies such as the tax advantages (Emery and Finnerty, 1997:534). Furthermore, non-cash and cash distribution have both a practical and informational impact on the companies and investors. They convey bad and good news to the investors, for example; when the companies distribute a stock dividend, this distribution may indicate that these companies have a shortage problem Schwartzman and Ball, (1984:155).

There are three conflicting theories examined the relationship between dividend and share prices; Lintner (1959) and Myron Gordon (1963) indicated that there is appositive relationship between dividend policy and stock price (Bird In Hand Theory). On the other hand, Modigliani and Miller (1961) argue that there is no relationship between the dividend policy and the stock prices (Irrelevant Theory). The third view indicated that there is a negative relationship between dividend policy and stock prices (Tax Preference Theory). So many studies indicated that the dividend is a puzzle. The main purpose of this study is to investigate the impact of dividend policies on stock prices changes in Jordanian companies listed in ASE. This study seeks to answer the following question; does the dividend policy have any impact on the stock prices volatility to the companies listed in ASE**?**

Furthermore, this study will shed more light on the main theories about the dividend policy adopted by the Jordanian companies in the financial market and its impact on the Jordanian stock prices. This research deals with many factors and variables that can affect the dividend policy of the Jordanian companies. In order to achieve the main objectives of the study, the following aims were set:

  i.   Providing an empirical research on the dividend policy and stock prices, in emerging market.
  ii. Analyzing the impact of cash dividend, stock dividend, and buyback stocks on the stock prices volatility.
  iii. Demonstrating the dividend policy followed by Jordanian companies.

2. Literature Review

Miller and Modigliani (1961) documented that the dividend policy of a firm is *irrelevant*, under a perfect market situation. They argued that the value of the firm is determined by its investment and financing decisions within an optimal structure and not by dividend decision. The basic assumptions underlying this theory are: There is no difference between taxes on dividend and capital gain, when securities are traded, no transaction and flotation incurred, symmetrical and costless information, no conflicts between interests of manager and shareholders and all participants in the market are price taker. Several researchers supported M&M theory such as Black and Sholes (1974) created 25 portfolios of common stock in New York Stock Exchange for studying the impact of dividend policy on share price from 1936 to 1966 by using capital asset pricing model for testing the relationship between dividend yield and expected return. The findings indicated that there is no significant relationship between dividend yield and expected return. Also, they showed that there is no evidence that diversity of dividend policies will lead to change in stock prices. Their findings are in line with dividend irrelevance hypothesis.

Baker and Smith (2002) indicated that the survey of 309 firms reveals that compared to a sample of industry matched firms; residual policy firms are larger, more profitable, more liquid, and less highly levered. Residual policy firms are less exposed to change to the direction of their dividend trend than matched firms. Lintner (1959) and Gordon (1963) argued that shareholders are risk averse and prefer to receive dividend in the present period rather than future capital gains; this perspective is based on indecisive conditions as a higher current dividend reduces uncertainty about future cash flow, a high payout ratio will reduce the cost of capital and increase share value. Bhattacharya (1979) presented the first dividend signaling model, in which dividend reduce the amount of free cash flow available to the firm, thus increasing the probability that the firm will need outside financing to cover all the projects may want to undertake. He assumed the existence of an exogenous transaction cost of outside financing that makes dividend a costly scheme for firms. To sum up at this stage; firms with better earnings prospects, are the firms that have a constant growth in dividend distributions; so, this relationship is a repetitive pattern. Furthermore, Bhattacharya (1979) indicated that paying dividend is considered a signal to future firm's profitability. In other words, if the firm reduces or cut the dividend, share prices will be slowed down.

Allen and Michaely (2002) pointed out to asymmetric information (signaling) models of dividend result in two major empirical predictions: First, unanticipated changes in dividend should be accompanied by stock price changes in the same direction, which means dividend increases are taken as good news by the market, and decreases as bad news. Second, dividend changes should be followed by changes in earnings in the same direction.

Nishat and Irfan (2003) studied the role of dividend policy measures i.e. dividend yield and payout ratio on share price changes in the long run during the period 1981 to 2000. The annual data of 160 firms was taken from the various issues of "Balance Sheet Analysis" published by State Bank of Pakistan. Price data has been taken from the annual reports and other annual publications of Karachi Stock Exchange. Also, the methodology used a cross-sectional regression analysis to investigate the relationship among variables. The results indicated that both the dividend policy measures (dividend yield and payout ratio) have significant impact on the share price volatility. The relationship is not reduced much even after controlling for the above mentioned factors. This suggests that dividend policy affects stock price volatility and it provides evidence supporting the arbitrage realization effect, duration effect and information effect in Pakistan. The responsiveness of the dividend yield to stock price volatility increased during reform period (1991-2000). Whereas payout ratio measure is having significant impact only at lower level of significance.

Omet (2004) examines the dividend policy behavior of companies listed on ASE during the period 1985-1999. It's concluded that the Jordanian companies follow stable cash dividend policy. He used Linter's model to test stability in the dividend policy of listed Jordanian Companies. Moreover, the results indicated that the 1996 imposition of a 10 percent tax rate on dividends did not lead to any significant changes in their dividend policies and lagged dividend per share is more important than current earnings per share in determining current dividend per share.

Barman (2007) used survey to solve the problem of the study which is; which of the dividend theories, relevant or irrelevant, are applied by the majority of the firms in the sample and as a consequence of the theory being applied and whether a managed dividend policy does influence firm value or whether a dividend policy is irrelevant. A total of 42 completed questionnaires were received from different companies, both listed and private, throughout the Republic of South Africa. The results indicated that the dividend decision is as important as the company's investment and financing decisions in determining firm value, dividend payments affect a firm's cash flows causing an increase in the firm's cost of capital, an increase in dividend payout results in an increase in share price, a decrease/omission in dividend payout results in a decrease in share price and dividend payments should satisfy shareholders' preference for dividend.

AL-Malkawi (2007) examined determinants of corporate dividend policy in Jordanian Companies

during the period 1989-2000 by using Tobit Model of Regression Analysis. His study indicated that there is a positive relationship between profitability, firm's age, firm's size and dividend policy. The leverage, risk, institution ownership have negative effect on dividend policy. Also, he shows that many factors that are found to be significant in the determination of dividend policy are the same as those found in developed markets.

Azhagaiah and Sabari (2008) examine the effect of dividend policy on stock prices. They find that the market price of stock is determined by dividend and retained earnings. The results are similar to Friend and Puckett (1964); Naamon (1989); Nishat (1992) and Pradhan (2003) while contradicts Harkavy (1953). The results of regression show that the price of share influences by the dividend policy.

Alnajjar's study (2009) supported Malkawi's study (2007) that there is a positive relationship between firm's size, growth opportunities, profitability and dividend policy but there is a negative relationship between risk, leverage, institution ownership and dividend policy. The study used pooled and panel Tobit and Logit models to investigate the determinants of the dividend policy and the factors that may affect the likelihood of paying dividends during the period 1994 to 2003. Also, he used Lintner's model to show that the Jordanian Companies have target payout ratio and they adjusted to their target faster than the developed companies.

Hussainey, et al. (2010) examined the relationship between dividend policy and the share price volatility in the UK Stock during the period 1998 to 2007 by using Multiple Regression Analysis. The results indicated that a significant negative relationship between the payout ratio of a firm and the volatility of its stock price and a positive relationship between dividend yield and the volatility of stock price. The overall findings suggest that the higher the payout ratio the less volatile a stock price would be. That payout ratio is the main determinant of the volatility of stock price.

Salih (2010) examines the empirical relationship between dividend policy and firm's value. The results show that the firm's market value is affected by its dividend policy which is in line with Gordon (1963) while inconsistent with Miller and Modigliani (1961); Baker *et al.* (1985); and Farrelly *et al.* (1986); Ahmad and Chaudhary (2006). There is a relationship between earnings, investment policy, and firm's value. Most firms' mangers prefer cash dividends on stock dividends and stock repurchases. Stockholders structure is the most important factor influencing firm's managers when they set its dividend policy while agency theory is the less important factor.

Nazir, et. al. (2010) considered the role of corporate dividend policy in determining the volatility in the stock prices in Pakistan. A sample of 73 firms has been selected from Karachi Stock Exchange (KSE) during the period of 2003-2008 by using fixed effect and random effect models of the regression. The results indicated dividend policy affects stock price volatility and it provides verification supporting the arbitrage realization effects, duration effect and information effect in Pakistan. The effect of the dividend yield to stock price volatility increased during the whole period (2003-2008) whereas payout ratio has only a significant impact at lower level of significance. In overall period, the size and leverage have negative and non-significant impact on stock price volatility.

AL-Qaisi and Omet (2010) investigated whether or not listed Jordanian Companies have stable cash dividend policy and do banking, industrial, insurance, and services companies behave in a similar fashion regarding the issue of dividend policy stability?. This study examined 26 companies listed in Amman Stock Exchange during the period 1995-2005 by using Lintner's Model; their study supported Omet's study (2004)that Jordanian Companies follow stable cash dividend. Furthermore, the industrial and insurance profitability is lower than those in banking and service. So services and banking companies follow more stable dividend policy than industrial and insurance companies.

Khani, et al. (2011) investigated the relation between dividend policy and stock prices by taking the sample of 55 dividend paying companies listed in Karachi Stock Exchange for the period of 2001 to 2010. Fix and random effect models of regression analysis are applied. Results of the study indicate that Dividend Yield is positively and Retention Ratio is negatively related to Stock Prices in both cases Fixed and Random Effect and significantly explain the variations in stock prices. This further explains that investors want dividend as it provides signal about the future prospects of the company. The control variables Earnings per share and Profit after Tax are positively related to Stock prices in case of both the models while Return on Equity is negatively related to Stock in case of Fixed Effect Model and positively related in case of Random Effect Model.

AL-Shubiri (2011), the main question which his study tried to answer it was; what are the main factors that determine the dividend payments strategies in listed firms of Amman stock exchange? The sample is based on 60 firms listed in Amman Stock Exchange during the period 1998-2009 by using Multiple Regression; He indicated that dividend adjustment is asymmetric for below and above target dividend adjustment with positive and negative earnings.

Bougatef, (2011) examined the impact of dividend payments on the stock price in Tunis stock price. The sample covered 24 publicly traded Tunisian firms. Data were collected from Tunis Stock Exchange and completed from firms' web sites during the period 2000 – 2008 by using Panel Data Regression; Fixed effect model, Random Effect Model and OLS Model. The results indicated that cash dividend have positive impact on

stock prices of Tunisian firms. In addition, Tunisian investors reward firms paying cash dividend. Inflation has negative impact on stock price but profitability has positive impact on stock price.

Haddad, et al (2011) investigated the effect of stability dividend policy on the performance of 17 Jordanian banks listed in ASE during the period 2000-2006 by using Lintner's Model. This study indicated that the banking sector follows unstable cash dividend policy. So the commercial banks should enhance their performance to compete foreign banks.

Zurigat and Gharaibeh (2011) investigating whether maximizing firms follow a symmetric or asymmetric target dividend adjustment. It also investigates whether this behavior exits for firms with positive and negative earnings. Using data for a sample of 38 firms listed in Amman Stock Exchange (ASE), regression analysis. The results indicated that Jordanian firms have a target dividend payout with low rate of target adjustment. However, target adjustment is not symmetrical; it is asymmetrical adjustment process, depending on whether they are above the target or below that target. Moreover, dividend adjustment is not only asymmetric for upward and downward (below and above-target) dividends adjustment, but also asymmetric for below-target dividends adjustment with positive and negative earnings as well for above-target dividends adjustment with positive and negative earnings. These findings suggest that the asymmetrical partial adjustment model based on Lintner's (1956) idea of dividend payout targets perform well in the Jordanian.

Khan (2011) explored the effect of dividend policy on the stock prices by taking a sample of 131 companies listed at Karachi Stock Exchange for a period of 10 years from 2001to 2010 by using Regression Analysis. The results indicated that Profit after Tax, Earnings per Share, Stock dividend and Return on Equity have positive relation with Stock Prices and significantly explain the variations in the market prices of shares, while Retention Ratio has negative, insignificant relation with stock prices. Overall model is significant. Results of Fixed and Random Effect Models further validate these results. Overall results of this study indicated that Dividend Policy has significant positive effect on Stock Prices.

Khan (2012) investigated the effect of dividend policy on stock prices by taken 25 companies listed at KSE- 100 Index from the period of 2001 to 2010. The study is based on Fixed and Random Effect Model. The results indicated that there is significant positive relationship between cash dividend and stock prices. Also, there is negative insignificant between stock dividend and stock prices. This study further indicated that Dividend Irrelevance Theory is not applicable in case chemical and pharmaceutical industry of Pakistan.

Hashemijoo, et al (2012) investigated the relationship between dividend policy and share price volatility by taking a sample of 84 companies listed on Bursa Malaysia during the period 2005 to 2010 by using Multiple Regression. The results indicated that significant negative relationship between share price volatility and two main measurement of dividend policy which are payout ratio and dividend yield. Also, there is significant negative relationship between share price volatility and size.

Warrad, et al. (2012) examined the relationship between ownership structure and dividend payout policy in the Jordanian Companies during the period 2005-2007 by using Tobin's Q. The results indicated that there is positive and significant relationship between foreign ownership structure and dividend payout policy. On the other hand there is no relation between private ownership, government ownership, foreign ownership structure and the dividends policy. Also, there is a significant relationship between foreign ownership structure and firms size and debt ratio.

This study proposes four hypotheses which are derived from the following main hypotheses:

"There is a positive association between the following independent variables (dividend payout ratio, dividend yield, size of the firm, stock dividend and stocks repurchase); and (share price volatility as an independent variable)".

Accordingly the study aims to examine the following null hypotheses;

Hypothesis 1:

H0, 1: There is no significant association between share price volatility and payout ratio.

Baskin, (1989) pointed out to the negative impact of the dividend payout on the share price volatility depending on the rate of return and the effect of information. He said that the dividend payout can be used as an indicator of the expected growth and investment opportunities, so that companies with a high dividend less fluctuated in stock prices. He also explained that the high dividend can be interpreted as the stability of the firm and reduce volatility in the share price of that company (Mohammad Hashemijoo, et al (2012)).

Hypothesis 2:

H0, 2: There is no significant association between share price volatility and dividend yield.

Hypothesis 3:

H0, 3: There is no significant association between share price volatility and SIZE of the firm.

Baskin, (1989) proposed that size, earning volatility, debt and growth affect the both share price volatility and dividend policy. The market risk faced by firm can affect the both dividend policy and share price volatility. Additionally, it is possible that size of firm affects the price volatility because small firms usually have less diversification in their activities. Moreover, it is possible that small firms have less information available to

investors about their stock market. Another reason for impact of size on share price volatility is that small firms' stock may be more liquid, so their share price can be more volatile than larger firms. (Baskin, 1989) proposed that firms which have more scatter body of shareholders are more likely to use dividend as a signaling device, so the size can affect the dividend policy too. For counting the size, a control variable (Size) is added to primarily regression equation model 2.

Hypothesis 4:

H0, 4: There is no significant association between share price volatility and stocks repurchase.

Hypothesis 5:

H0, **5**: There is no significant association between share price volatility and stock dividends.

3. Sample and Data Collection

The population of this study generally consists of the companies listed in ASE during the period of study. The sample is limited to those companies that pay dividends. More precisely, it includes those companies that have a dividend payment for at least 5 years of distribution during the period 2001 to 2013. Hence, it excludes the companies with zero dividend payments or less than five years dividend payments during the study period. Also, the study will exclude all companies with missing data during this period. The data was collected covering four sectors, industry, service, banking, and insurance sector. It is important to notice that the Jordanian companies are low in their distribution. It noticed that most of Jordanian companies do not distribute any form of dividend and this is the most important challenge faced the study. On the other hand, the majority of firms is selected from industrial and services sectors because of the greater diversity of dividend policy within these sectors. The data employed in this study is derived from the annual publications of the ASE. Based on a 13-year period (2001-2013) and 53 companies distributed cash dividend, stocks repurchase and stocks dividend listed on the ASE. This sample covers four sectors: industrial, service, insurance, and banking. In order to gain the maximum possible observations, pooled cross-section and time-series data is used. Also, another source of data is based on the annual report publications of public shareholding firms held by ASE. This data consists of balance sheet, cash flow statement, financial ratio and other relevant information related to firm's value. Another secondary data collect from books, websites and articles.

4. Variables Definition

This study investigated the impact of dividend policy adopted in ASE firms on stock prices volatility. Therefore, the study consists of the following variables:

4.1 **Dependent variable**.

Price volatility (PV): which is a statistical measure reflects the dispersion in stock returns. The volatility of prices refers to the amount of variability and uncertainty in predicting changes in stock prices. The high price volatility indicates that the value of shares can theoretically be extended to cover a wide range of values, and this means that the stock price can change dramatically within a short time horizon in either direction (Ramadan, 2013). Following Baskin, (1989) price volatility can be computed annually by using the following formula:

$$PV_{it} = \sqrt{\frac{HP_{it} - LP_{it}}{\left(\frac{HP_{it} + LP_{it}}{2}\right)^2}} \qquad (1)$$

Where, $PV_{it,}$ is the price volatility for i^{th} cross-sectional firm during the tth period, HP_{it} is the highest stock price for i^{th} cross-sectional firm during the tth period, LP_{it} is the lowest stock price for i^{th} cross-sectional firm during the tth period.

Where stock price (P_t) is defined as the closing price of stock (at the end of the year). It is derived directly from the financial statements of firms. The volatility of prices refers to the amount of variability and uncertainty in predicting changes in stock prices. The high price volatility indicates that the value of shares can theoretically be extended to cover a wide range of values, and this means that the stock price can change dramatically within a short time horizon in either direction (Ramadan, 2013).

4.2 Independent variables:

i. *Dividend Payout Ratio (DP):*

The amount of earnings paid out in dividend to shareholders. Investors can use the payout ratio to determine what companies are doing with their earnings. Nazir, et al (2010) and Hussainey, et al (2011) found

negative relation between stock market prices and dividend payout ratio while Nishat and Irfan (2003) found positive relation between stock market prices and payout ratio.

$$DP_{it} = \frac{div_{it}}{Eps_{it}} \qquad (2)$$

Where; DP_{it} is the dividend payout ratio for i^{th} cross-sectional firm during the tth period, div_{it} represents divided per share for i^{th} cross-sectional firm during the tth period, Eps_{it} refers to earning per share for i^{th} cross-sectional firm during the tth period.

   ii. Dividend yield (DY); this ratio indicates to the return shareholders are obtaining on their investments in the form of dividend. Hussainey, et al (2010) found that a positive relation between Dividend Yield and stock price changes.

$$DY_{it} = \frac{div_{it}}{MP_{it}} \qquad (3)$$

Where; DY_{it} refers to dividend yield for i^{th} cross-sectional firm during the tth period, div_{it} indicates to dividend per share for i^{th} cross-sectional firm during the tth period, MP_{it} represents market price per share for or i^{th} cross-sectional firm during the tth period.

   iii. Size (market value): which is the share price multiplied by the number of common stocks in issue. A transformation using base 10 logarithm is then applied to obtain a variable that reflects orders of magnitude. The figures were obtained directly from ASE.

   iv. Cash Dividend means regularity in paying some dividend annually; the amount of dividend may fluctuate over years and may not be related with earnings. Bougatef (2011) found that there is a positive relationship between cash dividend and stock prices. The researcher measures cash dividend by using two variables:

1) *Stocks Repurchase* (SR): which means to buy back the shares from the same company from the market. The researcher measured stocks repurchase by using log value of treasury stocks.
2) *Stocks dividend* (SD): means that the distribution of shares free of cost to the existing shareholders, Thereby increasing the number of outstanding shares. The researcher measured stock dividend by using log value of stock dividend.

5. Methodology of Research

To reach to the aim of this study as stated above and to examine the study hypothesis, a pooled panel database was constructed from the available financial data, which consists of balance sheet, income statement, cash flow statement, and the relevant information of all publicly quoted companies. In considering the dividend decision, firms have five options: pay cash dividend, distribute stock dividend, buy back stocks, distribute a mixture of the previous types, or no distribution at all, few Jordanian companies pay dividend, and even those who pay dividend do not pay constantly .

   The methodological approach used in this study is based on the model outlined as the following:

Model 1: In this model this study is trying to detect the impact of two variables selected from the independent variable on the price volatility as a dependent variable.

$$PV_{it} = \alpha + \beta_1 DP_{it} + \beta_2 DY_{it} + \varepsilon_{it} \qquad (4)$$

Where; P_{it} is the stock price for i^{th} cross-sectional firm for the tth period, as $i = 1,2,3,…,53$, $t = 1,2,3,…,12$; α is constant; β unknown parameters of the firm's dividend policy which includes DP and DY to be estimated; ε is the random error.

Model 2: The second model extra three variables added, to examine the impact of dividend policy represented by four variables on price volatility as follows:

$$PV_{it} = \alpha + \beta_1 DP_{it} + \beta_2 DY_{it} + SIZE_{it} + \beta_3 SR_{it} + \beta_4 SD_{it} + \varepsilon_{it} \qquad (5)$$

   Where; PV_{it} represent the stock price, for the ith cross-sectional firm during the tth period. α is constant, β unknown parameters of the firm's dividend policy which includes DP and DY to be estimated; SIZE

(SZ) is the market value of the firm computed by multiplying the number of shares outstanding with the price of share for each firm. SD is the natural logarithm of stock dividends for firm I during period $_t$, the stock dividend, SR, is the natural logarithm of stock repurchase of firm t in period t, ε and is the random error.

6. Data Analysis and Interpretation

Table (1) Descriptive Statistic for Dependent and Independent Variables

	PV	PO	DY	SZ	SD	SR
Mean	0.4157	0.5864	0.0465	7.8466	0.0029	0.0130
Median	0.3770	0.5700	0.0300	7.7791	0.0000	0.0000
Maximum	0.6681	4.3300	7.4600	9.8839	0.0400	6.0000
Minimum	0.2929	0.0000	0.0000	5.6039	0.0000	0.0000
Std. Dev.	0.1127	0.5968	0.2849	0.6348	0.0104	0.2290
Skewness	0.9689	2.4379	25.696	0.4524	3.2606	26.044
Kurtosis	2.8284	12.665	669.09	3.5854	11.653	681.20
Observations	689	689	689	689	689	689

Price volatility: the annual of range of stock prices divided by the average of the high and low prices obtained in the year raised to the second power. Dividend Yield: dividend per share divided by price per share. Dividend Payout: dividend per share divided by earnings per share Size: is the share price multiplied by the number of shares. Stocks Repurchase: means to buy back the shares from the same company from the market. Stocks dividend: means that the distribution of shares free of cost to the existing shareholders,

Table (1) shows a descriptive statistics of variables that affect the stock price volatility (PV $_{it}$) of ASE firms during the period of 2001 to 2013. Stock price volatility (PV $_{it}$) is varying from 0.292979 to 0.668149 with Mean value 0.415520 and standard deviation 0.112718. The explanatory variables for this model are divided payout ratio (DP), dividend yield (DY), SIZE, stock repurchase (SR), and stock dividend (SD). The table shows that stock dividend has the lowest mean and standard deviation, where, dividend SIZE has the highest mean and standard deviation between the variables. Also, it can be noticed that the minimum value is 0.00 for all independent variables while it is 0.30 for stock price volatility.

By applying (Parkinson, 1980) formula, for estimating the standard deviation of stock market returns, the mean of our calculated share price volatility of 0.415520 is multiplied by constant 0.6008 .the outcome is 24.96 percent.

7. Correlation Analysis Amongst variables

Variable	PV	DP	DY	SZ	SR	SD
Price volatility	1					
DP	-0.0891	1				
t-statistic	-2.3435	-----				
Probability	0.0194	-----				
DY	0.0694	0.0768	1			
t-statistic	1.8208	2.0161	-----			
Probability	0.0691	0.0442	-----			
SZ	0.0931	0.0001	-0.0048	1		
t-statistic	2.4488	0.0049	-0.1263	-----		
Probability	0.0146	0.9960	0.8995	-----		
SR	0.0545	-0.0410	-0.0078	-0.0226	1	
t-statistic	1.4296	-1.0758	-0.2046	-0.5924	-----	
Probability	0.1533	0.2824	0.8379	0.5538	-----	
SD	-0.1560	-0.1369	-0.0235	-0.0984	-0.0084	1
t-statistic	-4.1340	-3.6184	-0.6175	-2.5879	-0.2223	-----
Probability	0.000	0.0003	0.5371	0.0099	0.8241	-----

Price volatility: the annual of range of stock prices divided by the average of the high and low prices obtained in the year raised to the second power. Dividend Yield: dividend per share divided by price per share. Dividend Payout: dividend per share divided by earnings per share Size: is the share price multiplied by the number of shares. Stocks Repurchase: means to buy back the shares from the same company from the market. Stocks dividend: means that the distribution of shares free of cost to the existing shareholders,

The table above indicates that the correlation between price volatility *(PV)* and dividend payout ratio (*DP*) is significantly negative (-0.089) and it is in line with the correlation in Baskin's (1989) which was -0.542 and Allen and Rachim (1996) which was -0.210 . However, the correlation between price volatility and dividend yield is positive (0.07), this is in line with Allen and Rachim (1996) results which was positive (0.006). But in contrast with of Baskin (1989) findings which was -0.643. Also, the correlation between price volatility and stock repurchase is positive (0.054), but it is negative when it compared to stock dividend which is -0.144. The correlation between SIZE and price volatility is positive but negative with the rest of independent variable. The correlation table also shows a low correlation between dividend yield and payout with values 0.077, this means that there is the multi-co linearity which could be a potential problem does not exist. Multi-co linearity problem exist when the correlation between two independent variables is equal to or greater than 70% (Drury, 2008). we could conclude that the two variables were not strongly correlated, this positive correlation indicates that any increase in the dividend yield variable causes a week increase in dividend payout ratio and vice versa. Also, the correlation between stocks repurchases and stock dividend is -0.0089.

8. Fitness of the Model

The linear regression analysis of the original model reveals that the R-square of the model is 0.452. This means that the model explains 45.2% of the variance in the dependent variable as shown in Table (4) below. The model is statistically significant, as the p-value for the model is 0.001 which is less than the limit for statistical significance limit in same Table, which is 0.10 for weak significance and 0.05 or less for significance.

Table (3) Fitness of the Model

Model	R	R^2	Adj. R^2	S.D E.	Durbin - Weston	F	Sig
	0.556	0.452	0.253	0 .00590	1.764	5.477	0.001

9. Multicolinearity problem

To analyze Multi-co linearity, two types of measurements can be used: Variation Inflation Factor (VIF) and Tolerance. The VIF measures the extent the variance of the estimated regression coefficients are inflated as a result of being related to the other independent variables, and Tolerance is the amount of variability of the selected independent variables not explained by other independent variables.

High degrees of Multi-co linearity can result in both regression coefficients being inaccurately estimated, and difficulties in separating the influence of the individual variables on the dependent variables. Any variables with a VIF value above (10) or with a value below (0.10) of Tolerance would have a correlation of more than 0.90 with other variables, indicative of the Multi-co linearity problem (Hair et al, 1998). Results in Table below (5) shows that VIF for all independent variables ranged between (1.002-1.029), which are less than the limited valued (10) and Tolerance for all independent variables ranged between (0.981-0.998), which are greater than (0.10). This indicates that there was no high correlation among the independent variables (Multi-co linearity).

Table (4) Multi co linearity Test

Variables	Tolerance	VIF
DP	0.974	1.029
DY	0.994	1.006
SZ	0.995	1.005
SR	0.998	1.002
SD	0.981	1.019

10. Empirical Results

To identify if there is an impact of independent variables (dividend payout ratio, dividend yield, size, stocks repurchase, and stock dividend) on (share price volatility) as the dependent variable, Fixed Effects method is used to control all the stable characteristics of the companies included in the study over a fixed period of time.

Table 5 demonstrates the findings obtained from equation (4). In model 1 the PV is regressed on DP and DY in the absence of the control variables. The regression results show a significant negative association between dividend payout and share price volatility and a positive association between dividend yield and share price volatility.

Table (5) *Model 1:* $PV_{it} = \alpha + \beta_1 DP_{it} + \beta_2 DY_{it} + \varepsilon_{it}$

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DP	-0.0177	0.0071	-2.4657	0.0139
DY	0.0303	0.0150	2.0153	0.0443
C	0.4244	0.0060	70.751	0.0000
R-squared	0. 3356	Adjusted R-squared		0. 1068
F-statistic	4.71618	Prob. (F-statistic)		0.00924

With addition of controls variables (Size, stock repurchase, and stock dividend) to the regression model, the significant negative association between PV and DY remains. Moreover, the negative association between PV and dividend payout remains and it is significant. As Table 6 shows, there is also a significant positive association between PV and size. Moreover, a significant positive association between PV and SD is found, implying that companies which have more volatility in their stock dividend distribution, have more volatility in their share price. Moreover, table 6 confirms the hypothesis four which states that there is no statistical significant influence of stocks repurchase on stock price volatility.

Table (6) *Model 2:* $PV_{it} = \alpha + \beta_1 DP_{it} + \beta_2 DY_{it} + SZ_{it} + \beta_3 SR_{it} + \beta_4 SD_{it} + \varepsilon_{it}$

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DP	-0.0217	0.0071	-3.0411	0.0024
DY	0.0297	0.0148	2.0081	0.0450
SZ	0.0139	0.0067	2.0988	0.0362
SR	0.0250	0.0184	1.3594	0.1745
SD	-1.7540	0.4106	-4.2713	0.0000
C	0.3221	0.0528	6.0939	0.0000
R-squared	0. 50836	Adjusted R-squared		0. 43867
F-statistic	7.294730	Prob (F-statistic)		0.000001

From the results showed in Table 6, DP has a significant effect on share price volatility on Jordanian firms (t= -3.04; P-value=0.002), this result is consistent with Nishat and Irfan (2003), and Allen and Richim (1996). Furthermore, DY has a significant effect on stock price volatility in Jordanian companies (t= 2.008; P-value = 0.045), this result is consistent with Allen and Richim (1996) and Adefila et al (2004). In addition, the results indicated that stock Dividend has a significant effect on stock price volatility in Jordanian companies (t= -4.27; P-value = 0.000), the result is in inconsistent with Grinblatt et al (1984), Travols et al (2001) and Khan (2011). While stock repurchase has insignificant effect on stock price volatility in Jordanian companies (t= 1.359; P-value = 0.1745), this result is consistent with Ikenberry et al (1999).

Table (7) Summary of the Results of Hypotheses Testing

Null Hypotheses	Accept/Reject At 5% level
H0₁: There is no statistical significant influence Of DP on stock price volatility.	Rejected
H0₂There is no statistical significant influence Of DY on stock price volatility.	Rejected
H0₃ There is no statistical significant influence Of size on share price volatility.	Rejected
H0₄There is no statistical significant influence Of stocks repurchase on stock price volatility.	Accepted
H0₅There is no statistical significant influence Of stocks dividend on stock price volatility.	Rejected

11. Conclusion

The aim of this study was to examine to the relationship between dividend policy (dividend payout and dividend yield) and volatility of share price based on a sample of publicly quoted firms in Amman Stock Exchange (ASE). Also, this study examined the relationship between share price volatility and other variables such as size, stock dividend, and stock repurchase. The empirical findings suggest that there is a significant negative relationship

between the payout ratio of a firm and the volatility of its stock price and a weak positive relationship between dividend yield and the volatility of stock price. This is consistent with the findings of Allen and Rachim (1996). But the findings on payout ratio were contrary to the findings of Baskin (1989). The results generally suggest that the high rate of payout ratio leads to lower volatility in the share price.That payout ratio is the main determinant of the volatility of stock price. Among the control variables, size had a very low positive relationship with price volatility, suggesting that the larger the firm, the less volatile the stock price, stock repurchase had insignificant relationship with price volatility. Since both management and investors are concerned about the volatility of stock price, this research has provided a light on the path way to discovering what moves stock price and important factors to be considered by investors before making investment decisions, and management in formulating dividend policies for their firms. This research also discussed some theories of dividend policy, determinants of dividend policy as well as theories of risk and dividends.

The above findings also contradict Miller and Modiglani (1961) claim that dividend policy is irrelevant because it has no effect on stock price. Nevertheless, if a firm increases its dividend it will limit the free cash available for managers and reduces the acuity of agency problem, which can be reflected in the stock price (Ramadan, 2013).

References

Adfila, J., Olidipo, J and Adeoti, J. (2004), "The effect of dividend policy on the market price of share in Nigeria: case study of fifteen quoted companies".

Allen, F., and Rachim. R. (1996), "Dividend Policy and stock Price volatility: Australian evidence". *Applied Financial Economics*, 6 (2), 175-188.

Allen, F., Bernardo, A.,& Welch,I.(1998). "A Theory of Dividends based on tax clienteles". Yale School of Management.

Al-Malkawi, H. (2007), "Determinants of Corporate Dividend Policy in Jordan: An Application of the Tobit Model". *Journal of Economic & Administrative Sciences* Vol. 23, No. 2, December 2007 (44-70).

AL-Malkawi, H., Rafferty, M. and Pillai, R. (2010), "Dividend policy: A review of theories and empirical evidence". *International Bulletin of Business Administration*, ISSN:1451-243X Issue 9 (2010).

Al- Najjar, B. (2009), "Dividend behavior and smoothing new evidence from Jordanian panel data". *Studies in Economics and Finance*, Vol. 26, No. 3, pp. 182-197, 2009.

Al-Qaisi, K. and Omet, G. (2010), "Dividend policy at the Amman Stock Exchange: The Stability Issue During 1995-2005". *Dirasat, Administrative Sciences*, Volume 37, No. 1, 2010

AL- Shubiri, F. (2011), "Determinants of Changes Dividend Behavior Policy: Evidence from the Amman Stock Exchange". *Journal of Psychology and Business*, Vol. 4 No.1.

Azhagaiah, R. and Sabari, P. (2008), "The impact of dividend policy on shareholders' wealth"**,** *International Research Journal of Finance and Economics*, Issue 20, pp. 180-187.

Baker, H. and Smith, D. (2002), "In search of a residual dividend policy". *Review of Financial Economics***,** Volume 15, Issue 1, Pages 1-18.

Barman, G. (2007), An evaluation of how dividend policies impact on the share value of selected companies.

Bhattacharya, S. (1979), "Imperfect information, dividend policy, and the bird in the hand fallacy". *The Bell Journal of Economics*, Vol. 10, No. 1, pp. 259-270.

Bougatef, K. (2011), "How do dividend payments affect stock prices? The case of Tunisian Firms". *The Journal of commerce*, Vol.3, No,2.

Chen, D., Huang, H. And Cheng, T. (2009), "The Announcement effect of cash dividend changes on share prices: An Empirical analysis of China". *The Chinese Economy*, 42 (1), 62-85.

Elfakhani, S. (1995), "An empirical examination of the information content of balance sheet and dividend announcements: signaling approach". *Journal of financial and strategic decisions*,Vol.8 No. 2.

Dittmar, A. (2000), Why do firms repurchase stock? *The Journal of Business*, Vol. 73, No. 3, P. 331-355.

Emery, D. And Finnerty, J. (1997), "*Corporate financial management*". 1st Ed, Prentice Hall: Upper Saddle River. P:534

Grinblatt, M., Masuli, R. and Titman, S. (1984), "The valuation effects of stock splits and stock dividends". *Journal of financial economics*, 13 (1984) 461-490.

Grullon, G. and Michaely, R. (2004), "The information content of share repurchases programs". *The Journal of finance*, vol. LIX, No 2.

Hair, J., Black, W., Babin, B. & Tatham, R. (2006), *Multivariate Data Analysis*. 6th Ed, Pearson Education, Inc, Upper Saddle River, NJ.

Haddad, W., Al- Zorqan, S. , Musa, S. and Noor, M. (2011), "The Effect of Dividend Policy Stability on the Performance of Banking Sector Listed on Amman Stock Exchange". *International Journal of Humanities and Social Science*, Vol. 1 No. 5.

Hashemijoo, M., Ardekani, A. and Younesi, N. (2012) , "The impact of dividend policy on share price volatility

in the Malaysian Stock Market". *Journal of Business Studies*, Vol 4, No 1, PP. 111-129.

Hussainey, K., Mgbame, C. And Aruoriwo, M. (2010), "Dividend Policy and Share Price Volatility: UK Evidence". *Journal of Risk Finance*, 12 (1), 57 – 68.

Ikenberry, D., Lakonishok, J. And Vermalen, T. (1999), "*Stock repurchase in Canada: performance and strategic trading*.

Jensen, M. (1986), "Agency cost of free cash flow, corporate finance and takeover". *American Economic Review*, Vol. 76: 323-329.

Jeong, J. and Chung, S. (2001), "Bootstrap tests for autocorrelation". *Singapore Management University*, pp.1-28.

Joshi, R. (2012), "Effects of dividends on Stock prices in Nepal". *NRP economic review; 24*.

Kania, S. and Bacon, F. (2005), "What factors motivate dividend policy". *ASBS E-Journal*, Volume1, NO1. PP 97-107.

Kapoor, S. (2009), "Impact of dividend policy on shareholders' value: A study of Indian firms". *Jaypee Institute of Information Technology*, Noida A-10, SECTOR 62, NOIDA, INDIA (12).

Khan, K., Aamir, M., Qayyum, A., Nasir, A. & Khan, M. (2011), "Can dividend decisions affect the stock prices: A case of dividend paying companies of KSE" *International Research Journal of Finance and economics*, ISSN1450-2887 Issue 76.

Khani, A. and Dehghani, S. (2011), "The Effect of Financial Life Cycle on Dividend policy of Listed Companies in Tehran Stock Exchange". *Interdisciplinary Journal of contemporary research in business, vol.3, no.1*

Kumar, J. (2004), "Corporate governance and dividends payout in India". Working paper in the research conference on India's financial system.

Lintner, J. (1956), "Distribution of Incomes of Corporations among Dividends, Retained Earnings, and Taxes". *The American Economic Review*, Vol. 46, No. 2.

Miller, M. and Rock, K. (1985), "Dividend policy under asymmetric information". *The Journal of Finance*, 40(4):1031{1051.

Modigliani, F. and Miller, M. (1961), "Dividend Policy, Growth, and the Valuation of Shares". *The Journal of Business*, Vol. 34, No. 4. pp. 411-433.

Nazir, M., Nawaz, M, Anwar, W. and Ahmed, F. (2010), "Determinants of Stock Price Volatility in Karachi Stock Exchange: The Mediating Role of Corporate Dividend Policy". *International Research Journal of Finance and Economics*, (55), 100-107.

Nishat, M. and Irfan, C. (2003), "Dividend Policy and Stock Price Volatility in Pakistan". *11th Pacific Basin Finance, Economics and Accounting Conference*.

Okafor, C. and Mgbame, C. (2011), "Dividend policy and share price volatility in Nigeria". *Jorind* (9) 1 June, 2011. ISSN1596-8303. www.transcampus.org/journals.

Omet, G. (2004), "Dividend Policy Behavior in the Jordanian Capital Market". *International Journal of business*, 9(3): 1083‒4346.

Pradhan, R. (2003), "Effects of Dividends on Common Stock Prices: The Nepalese Evidence". *Research in Nepalese Finance*, 1-13.

Ross, S., Westwefield, R. And Jaffe, J. (1999), *Corporate Finance*. 5th Ed, Irwin Mc- Hill. PP 15-168-460-46.

Salih, A.A. (2010), "The effect of dividend policy on market value: UK empirical study", Doctoral thesis, Durham University. Available at Durham e-theses online: http:// etheses.dur.ac.uk/556/.

Schwartzman, S. and Ball, R. (1984), "*Elements of financial analysis*". 2nd Ed, VAN: mNosnn3b3n3nnj3nj3nn b3bnhb3trand Reinhold Company.

Sekaran, U. (2006), "*Research methods for business: A skill-building approach*". 4th Ed, John Wiley and Sons, Inc, New Delhi.

Travlos, N. Trigeorgis, L. And Vafeas, N. (2001), "Shareholder Wealth Effects of Dividend Policy Changes in an Emerging Stock Market: The Case of Cyprus". *Multinational Finance Journal*, 5 (2), 87-112.

Warrad, L., Abed, S and Khriasat, O. (2012), "The effect of ownership structure on dividend payout policy: Evidence from Jordanian Context". *International Journal of Economics and Finance,* Vol. 4, No. 2.

Zurigat, Z., and Gharaibeh, M. (2011), "Do Jordanian Firms Smooth their Dividends? Empirical Test of Symmetric and Asymmetric Partial Adjustment Models". *International Research Journal of Finance and Economics*, 1450-2887 Issue 81.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

Academic conference: http://www.iiste.org/conference/upcoming-conferences-call-for-paper/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar