Alexandria Journal
of Accounting Research

Third Issue, September, 2023, Vol. 7

Karim Tarek Hamed Afifi[1]
Arab Academy for science,
Technology and Maritime Transport
Graduate School of Business, Egypt

Prof. Ahmed Mohamed Sakr[2]
Arab Academy for science,
Technology and Maritime Transport
Graduate School of Business, Egypt

An Examination of the Signaling Effect of the Dividend Policy on Synchronization of Stock Returns

Abstract

The paper examines the signaling effect of Dividend Policy for the non-financial firm that are listed in Egypt Stock Exchange. The data cover the years 1998 to 2022 annually. The signaling effect uses the synchronization of stock returns. The analysis of this paper examines the Dividend Policy that affect synchronization of stock returns.

Model 1 shows that for dividend information ratios, the results indicate that only Dividend Yield is found statistically significant and negative with synchronization of stock returns.

Moreover, for model 2, the analysis shows that firm size has great effect on the synchronization of stock returns. The firms' size is examined through dummy variable using the natural log of total assets. The results indicate that corporate size has significant and positive effects on stock return synchronization.

As for the effects of types of industries (Model 3), the results show that industry type have no effect on the synchronization of stock returns, since none of 16 industries are statistically significant with the synchronization of stock returns.

Key Words: Dividend Policy, Signaling Theory, Coefficient of determination (R2), Synchronization of stock returns.

E. mail: karim_tarek@aast.edu[1]

E. mail: asakr@aast.edu[2]

دراسة تأثير الإشارة لسياسة توزيع الأرباح على تزامن عوائد الأسهم

ملخص البحث

تبحث هذة الدراسة تأثير الإشارة لسياسة توزيع الأرباح على الشركات غير المالية المدرجة في بورصة مصر. تغطي البيانات سنويا الفترات الزمنية من 1998 إلى 2022 سنوياً. يستخدم تأثير الإشارة مزامنة عوائد الأسهم. يتناول تحليل هذه الورقة سياسة توزيع الأرباح التي تؤثر على تزامن عوائد الأسهم.

يوضح النموذج رقم 1 أنه بالنسبة لنسب معلومات الأرباح، تشير النتائج إلى أن عائد التوزيعات فقط هو الذي وجد أنه ذو دلالة إحصائية وسلبية مع تزامن عوائد الأسهم.

علاوة على ذلك، بالنسبة للنموذج رقم 2، يوضح التحليل أن حجم الشركة له تأثير كبير على تزامن عوائد الأسهم. وقد تم فحص حجم الشركات من خلال متغير وهمي باستخدام السجل الطبيعي لإجمالي الأصول. وتشير النتائج إلى أن حجم الشركة له آثار كبيرة وإيجابية على تزامن عوائد الأسهم.

أما بالنسبة لتأثير نوع الصناعه (النموذج رقم 3)، فقد أظهرت النتائج أن أنواع الصناعات ليس لها أي تأثير على تزامن عوائد الأسهم، حيث لا يوجد أي من الصناعات الـ 16 ذات دلالة إحصائية مع تزامن عوائد الأسهم.

الكلمات المفتاحية: سياسة توزيع الأرباح ، نظرية الإشارة ، معامل تحديد (R2)، تزامن العائد.

1- Introduction

The key concept of information asymmetry proposed by Jensen and Meckling (1976) and developed by Ross (1977), and signaling theory was born. Managerial incentives are an intuitive property of signaling theory that influences the firm's financing decision-making process. Ross (1977) showed how debt can be used as a signal to distinguish good firms from bad firms. In the case of management-investor information asymmetry, where management knows the actual distribution of profits but investors do not, then the company's ability to obtain financing sources will send a positive signal for the company's future. Higher debt signals an optimistic future, with high-quality firms taking on more debt and low-quality firms taking on less debt.

Connelly et al. (2011) review this theory and claim that it has three main elements: signaler, receiver, and signal. In their view, a signaler is an insider, including a manager or executive, who has information about a company (Ross, 1977), and "signaling" refers to that portion of all private information they possess, which the insider shares with the public Information provided. Such incomplete information, both positive and negative, may mislead the signal receiver and outsiders may take less favorable actions, especially since they conflict with part of the signaler's interests, so the signalers benefit at the cost of the receivers (Bird and Smith, 2005). For example, shareholders benefit from firms with profit prospects, but they incur transaction costs, and signals can be ignored because they are observable (Connelly et al., 2011). Signals can also be false due to the self-interest of the sender of the signal.

Based on research from 1994-1996, signaling theory also appears to apply to Middle Eastern firms (Du and Dai, 2005). The sample includes firms from nine Asian economies, and the period ends before the Asian crisis, which would change the results. The dependent variables are historical price leverage and market price leverage.

In Egypt, the theory does not seem to apply, it applies only to high-risk companies (Eldomiaty, 2004). This study examines the dynamic relationship between changes in a firm's capital structure and its impact on market prices at different

levels of systemic risk. The market price or market capitalization of the company is used as the dependent variable while the debt ratio is used as the independent variable. The sample companies are divided into 3 categories, each with high, medium, and low beta ratios. The results somewhat confirm the signaling theory, especially for high-risk organizations.

Finally, the study by Antoniou, Gunay, and Paudyal (2006) in France, Germany, and the United Kingdom support signaling theory by examining debt maturities in 1983, 1987, and 1969 for each country through 2000. The maturity date of the debt is used as the dependent variable, while what is examined under the assumption is the validity of the signaling theory expressed by using four factors: leverage, liquidity, variability and firm quality.

1-1 Objective of the paper

This paper aims at examining the effects of Dividend Policy for the non-financial firm that are listed in Egypt Stock Exchange on synchronization of stock returns.

2- Literature Review and hypotheses development

This section will focus on the literature of the previous empirical studies conducted by various researchers. This chapter introduces the following sections: Dividends Signaling Theory and the emergence of new concepts in capital structure (Dividend irrelevance theory, bird-in-the-hand theory, Signaling explanation, the agency theory, Taxes and clientele theory, The firm life cycle theory of dividends, and The Catering Theory of Dividends).

2.1 Dividends Signaling Theory

The dividend signaling theory says that when an organization reveals that it will pay out more dividends, financial experts and investors take that as a sign that the company's financial future looks good. The dividend signaling theory isn't accepted by all analysts, but there is some proof that it is valid.

Most of the time, a rise in dividend payouts is a good sign for the business's financial health and the future price of its stock. A drop in dividends could be a sign that the company's finances are going to be tough. The basic idea behind the dividend signaling theory is that businesses that pay the highest dividends will

make more money. But some studies have found that distributions of dividends are not always linked to earnings.

This idea was first put forward by Lintner in 1956, and many other experts have built on it since then. (Such as Ambarish, John, & Williams, 1987; Bhattacharya, 1979; Fama, Fisher, Jensen, & Roll, 1969; Miller & Rock, 1985; Miller & Scholes, 1982). Lintner found in 1956 that dividends take a long time to adjust when things change in a company. They typically fall behind actual shifts in earnings as executives want to be sure that the changes in earnings will last before they change the dividend.

Researchers have been trying to explain why firms pay cash dividends for more than 50 years. They have come up with many different ideas, reasons, and explanations.

Here are seven broad types of paying dividends, which don't have to be mutually exclusive:

(**1**) **Dividend irrelevance theory**: Miller and Modigliani suggested in 1961 that shareholders don't care about the policy of dividends and that the wealth of shareholders stays the same when every aspect of investment policy remain unchanged and any rise in the present payout is financed by selling shares at fair prices.

(**2**) According to the "**bird–in–the–hand**" **theory**, investors value cash in hand more than the promise of earnings in the future when making decisions about stocks. This is because cash in hand is less risky. (Gordon, 1959, 1963; Walter, 1963; Bhattacharya, 1979).

(**3**) **Signaling explanation**: As insiders, managers decide on dividend payment amounts to share sensitive data with investors about the business's future prospects. This minimizes asymmetries. (Bhattacharya, 1979, 1980; John and Williams, 1985).

(**4**) **According to the agency theory**, dividends help solve the problem of agency that arises when ownership and control are split in a company with

spread ownership. (Jensen and Meckling, 1976; Rozeff, 1982; Easterbrook, 1984; Jensen, 1986).

(**5**) **Taxes and clientele theory**: Different tax rates for income and capital earnings bring in various kinds of clients. (Elton and Gruber, 1970; Miller and Scholes, 1978, 1982).

(**6**) **The firm life cycle theory of dividends** says that a company's dividend policy is based on how long it has been in business. That is, companies tend to start giving bonuses when they think their growth rate and profit will slow down in the future. (Mueller, 1972; Fama and French, 2001; DeAngelo et al., 2006).

(**7**) **The Catering Theory of Dividends**: Executives give investors what they actually want at the moment. They meet the needs of investors by paying dividends when investors pay more for a company's stock and by not paying dividends or paying less when a company's shares sell at a discount. (Baker and Wurgler, 2004a, b).

Baker et al. (2011) states, "There is no clear winner among the competing dividend theories, and no single theory is currently the most effective solution to the dividend puzzle." Each idea has some evidence to back it up." They note, though, that the evidence seems to back up the agency theory and signaling explanations more than the tax-preference argument. Even though no theory has all the answers, newer theories like the firm life cycle theory and the catering theory of dividends offer some useful insights, but the results are still mixed.

Best and Best (2001) looked at a group of 6189 dividend increases and 330 dividend decreases that happened between 1977 and 1998. They found that there was a statistically significant abnormal return of 0.6068 and -3.6773 when dividends went up or down, respectively.

Grullon, Michaely, and Swaminathan (2002) employ the Fama and French three-factor model to find an abnormal return of about 8.3% in the three years after the year of the rise. However, they did not find an abnormal return for companies that cut their dividends.

Nevertheless, numerous research papers have not supported this theory. Watts (1973), DeAngelo, DeAngelo, and Skinner (1992, 1996), Benartzi, Michaely, and Thaler (1997), Grullon, Michaely, and Swaminathan (2002), Benartzi et al. (2005), and Lie (2005) discover very little or no proof that dividend adjustments indicate abnormal earnings growth.

2.2 Research hypotheses

Since the objective of the paper is to examine the current Dividend Information Ratios that affect synchronization of stock returns, three hypotheses can be developed as follows.

H1: There is a significant relation between Dividend Information Ratios and synchronization of stock returns.

H2: There is a significant relation between firm's size and synchronization of stock returns.

H3: There is a significant relation between industry classifications and synchronization of stock returns

3- Testing the hypotheses

3-1 Data and Variables

3-1-1 Data

The data are obtained from Egypt for Information Dissemination (EGID) including the non-financial firm that are listed in Egypt Stock Exchange. The data cover the years 1998 to 2022 annually.

3-1-2 Dependent Variables

This paper examines the synchronization of stock returns (Roll,1988) as follows.

$$\text{Synchronization of stock returns} = \frac{A_j}{B_j^2} \quad \ldots\ldots\ldots (1)$$

Where A_j is the systematic component of market risk β_j. The B_j^2 is the variance of the stock returns.

3-1-3 Independent Variables

The independent variables are (a) Dividend payout ratio, (b) Dividend Yield

3-3 Model Estimation

The Hausman specification test (Hausman, 1978; Hausman and Taylor, 1981) is needed because the data are cross section-time series panel. The test searches for a correlation between the x_it and the un _k and is thus performed under the following hypotheses.

$$H_0: \text{cov}(x_{it}, \lambda_k) = 0$$

$$H_1: \text{cov}(x_{it}, \lambda_k) \neq 0$$

Where x_{it}= regressors, and λ_k=error term.

The problem of linearity versus nonlinearity is also addressed and investigated. To evaluate the following hypotheses, the Regression Equation Specification Error, RESET is used (Ramsey, 1969; Thursby and Schmidt, 1977; Thursby, 1979; Sapra, 2005; Wooldridge, 2006)

$$H_0: \hat{y}^2, \hat{y}^3 = 0$$
$$H_1: \hat{y}^2, \hat{y}^3 \neq 0$$

The null hypothesis refers to linearity and the alternative refers to nonlinearity. The estimating equation of the random effect nonlinear model takes the form of Least Squares Dummy Variables (LSDV) that follows.

$$\mathbf{y}_{tk} = \alpha_k + \sum_{i=1}^{k} \beta_{ik} \mathbf{X}_{itk} + \lambda_k + \upsilon_{tk}$$

Where t = 1, …..,n

k = number of firms in each group.

$\mathbf{y}_{tk}$ = Synchronization of stock returns

$\mathbf{X}_{itk}$ = (a) short term debt to total assets (b) long term debt to total assets.

λ_k= Random error term due to the individual effect.

υ_{tk} = Random error.

3-4 Statistical Tests

3-4-1 Multicollinearity test

Table 1: The Results for the Multicollinearity test

Variable Name	VIF
Dividend payout ratio	2.456
Dividend Yield	1.701

The results in (table 1) show that there is no Multicollinearity among the independent variables as the values of VIF are less than 5.

3-4-2 Testing for Random Vs Fixed Effects (Hausman test)

Since the data are a cross-sectional time series panel, the Hausman specification test (Hausman, 1978; Hausman and Taylor, 1981) is needed to decide whether the fixed effects model or the random effects model should be used. The test looks for a link between the known x_it and the un _k. It is run with the following hypotheses.

$$H_0: \text{cov}(x_{it}, \lambda_k) = 0$$

$$H_1: \text{cov}(x_{it}, \lambda_k) \neq 0$$

Where x_{it}= regressors, and λ_k=error term.

3-4-3 Mixed effect regression model

The mixed effects model can be defined as:

$$Y_i = X_i\beta + Z_i b_i + \varepsilon_i,$$

where Y_i is an $t_i \times 1$ vector of observations for ith market takes the form $[y_{i1}, \ y_{i2}, \ldots\ldots \ y_{it}]^T$, X is an $t_i \times p$ matrix of covariates, and β is vector of covariates, and $Z_i, a\ t_i \times q$ **(number of unknown variables)** is a subset of X_i, modeling how the response evolves over time for the i^{th} Market. Furthermore $b_i = [b_{io}, b_{i1}, \ldots\ldots\ldots\ldots, b_{i(q-1)}]^T$ **is a** $q \times 1$ vector of random effects for the i^{th} Market describing unknown market characteristics. ε_i is a vector of re-

sidual components, it is usually assumed that the errors $\varepsilon_i's$ are independent and normally distributed with mean vector 0 and covariance matrix $\sigma_\varepsilon^2 I_{m_i'}$ and the random effects $b_i's$ are independent of $\varepsilon_i's$, and normally distributed with mean vector 0 and covariance matrix V_b.

$$Y_k = b_o + \sum_i \beta_i * X_i + \varepsilon \quad \text{k=1,2,3}$$

Where:

Y_k : stock returns synchronicity

X_i : Two groups of independent variables namely the and optimal indicators of corporate financing decision. (Penman, 1991, 1996, 2003).

β_0 : constant term

β_i : is the regression coefficient for independent variables

ε: is the regression residual term

Each model went through standard statistical tests. Hausman test to choose between fixed and random model. RESET test to check if the linear or non-linear form is appropriate for estimating the model. Heteroscedasticity test to show if residuals is homogenous or heterogenous.

3-4-4 The Results for Hausman Test

H0: differences in coefficients are not systematic

H1: differences in coefficients are systematic

Table 2: The Results for Hausman Test

Model 1: indicators of Corporate Financing Decisions
chi2(28) = 22.57 (Prob>chi2 = 0.7543)

From the above table (2), we can conclude that the best model for fitting the first model (variables) is random effect model as the p-value associated with the test is larger than 5%.

3-4-5 Linearity Vs Nonlinearity Test (RESET)

The issue of linearity versus nonlinearity is addressed and examined as well. Regression Equation Specification Error Test RESET (Ramsey, 1969; Thursby and Schmidt, 1977; Thursby, 1979; Sapra, 2005; Wooldridge, 2006) is employed to test the two hypotheses that follow.

$$H_0: \hat{y}^2, \hat{y}^3 = 0$$

$$H_1: \hat{y}^2, \hat{y}^3 \neq 0$$

The null hypothesis refers to linearity and the alternative refers to nonlinearity.1

Ramsey RESET test using powers of the fitted values of dependent variables

H0: model has no omitted variables

H1: model has omitted variables

3-4-6 Ramsey RESET test using powers of the fitted values

H0: model has no omitted variables

H1: model has omitted variables

Table 3: Ramsey RESET test using powers of the fitted values

Model 1: indicators of Corporate Financing Decisions
F(3, 12377) = 4.48 (Prob > F = 0.21776)

From the table (3) above we can conclude that at 95% confident we fail to reject the null hypothesis of the RESET test which means that the linear model fits the data.

3-4-7 Heteroscedasticity test

H0: the variance of error terms is constant

H1: the variance of error terms is not constant

[1] $F-\text{statistic} = \dfrac{(\text{SSE}_R - \text{SSE}_U) \div J}{\text{SSE}_U \div (T - K)}$ where SSE_R and SSE_U are the sum squared errors for the restricted and unrestricted models respectively, J refers to the two hypotheses under consideration, T is the number of observations, and K is the number of regressors.

Table 4: The Results for Breusch-Pagan/ Cook-Weisberg test for heteroscedasticity

Model 1: indicators of Corporate Financing Decisions
chi2(1) =227074.27 (Prob > chi2 = 0.0000)

The results in (table 4) show that the null-hypothesis of the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity is rejected at 1% significance level. That is, the variances of residuals are not constant, which requires the use of the robust estimation in order to estimate the parameters of the models under consideration.

4- Results and Discussion

This section examines and discusses the results of the signaling effect of corporate financing decision versus optimal corporate financing decision.

4.1 Examine the current Dividend Information Ratios that affect synchronization of stock returns

Table 5: The Results for the Signaling Effects of Dividend Information using Synchronization of stock returns

Dependent: Synchronization of stock returns			
Variables	**Model 1: Main Debt Indicators**	**Model 2: Size Effects**	**Model 3: Industry Effects**
Dividend Information Ratios			
Dividend payout ratio	-0.0324	-0.0558	-0.0528
	-0.0762	-0.9716	-0.9481
Dividend yield	-0.330***	-0.134***	-0.196***
	-0.0889	-0.0011	-0.00123
Size Effect			
Natural Log (Proxy for size)		0.343**	
		-0.0968	
Industry Effect			
Basic Resources			0.0401
			-0.251
Health Care & Pharmaceuticals			-0.0261
			-0.183
Industrial Goods, Services and Automobiles			0.315
			-0.602

Real Estate			-0.00804
			-0.641
Travel & Leisure			-0.101
			-0.314
Utilities			0.203
			-0.244
IT, Media & Communication Services			0.00872
			-0.177
Food, Beverages, and Tobacco			0.0681
			-0.431
Energy & Support Services			-0.123
			-0.304
Trade & Distributors			-0.0771
			-0.346
Shipping & Transportation Services			-0.0221
			-0.199
Education Services			-0.0143
			-0.421
Contracting & Construction Engineering			-0.153
			-0.599
Textile & Durables			-0.0744
			-0.352
Building Materials			0.146
			-0.602
Paper & Packaging			0.0079
			-0.273
Constant	0.120***	0.641***	0.915***
	-0.134	-0.172	-0.18
Observations	4200	4200	4200
Number of ID	16	16	16
R-squared	0.332	0.4503	0.2809
Robust Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

Table (5) reports the results of the analysis of the three models. For model 1, The association between synchronization of stock returns and indicators of corporate financing decision; The R squared of the regression model is 33.2%. This indicates a good fit for the model and the proposed model could infer 33.2% of the total variance in the synchronization of stock returns

With respect to Dividend Information Ratios, the results indicate that only Dividend yield ratio is found statistically significant and negative with synchronization of stock returns. Dividend yield ratio has negative impact on stock return synchronicity which mean that if dividend yield decreases, it results in increasing the market prices of firm and vice versa. The result regarding dividend yield indicates that larger firms which have high growth will have more investment opportunities as compared to smaller firm so they pay fewer dividends to the stockholders. Heaney and Pavlov (2004), also found the negative impact of dividend yield ratio on firm stock prices. So, the first hypothesis is accepted. There is a significant relation between Dividend Information Ratios and synchronization of stock returns.

Moreover, for model 2, The association between synchronization of stock returns and indicators of corporate financing decision taking into consideration the effect of firm size; the analysis shows that firm size has great effect on the synchronization of stock returns since the R-squared has been increased from 33.2% (Model 1 without consideration of firm size) to 45.03% after applying the firm size in model 2. The coefficient is statistically significant and positive; this finding is consistent with Eldomiaty's paper (2004) and Durnev et al. (2003), (2004 b). So, the second hypothesis is accepted. There is a significant relation between firm's size and synchronization of stock returns.

As for the effects of types of industries (Model 3), the results show that the types of industries have no effect on the synchronization of stock returns, since none of 16 industries are statistically significant with the synchronization of stock returns.

5- Conclusion

The paper examines the signaling effect of the Dividend Policy on Synchronization of Stock Returns. The data are obtained from Egypt for Information Dissemination (EGID) including the non-financial firm that are listed in Egypt Stock Exchange. The data cover the years 1998 to 2022 annually. This paper examines synchronization of stock returns as the dependent variable, and the independent variables is the Dividend Information Ratios. Since the data are cross section-time series panel, the Hausman specification test is required to determine whether the fixed or random effects model should be used. random effect model was applied as the p-value associated with the test is larger than 5%. The issue of linearity versus nonlinearity is addressed and examined as well. Heteroscedasticity test was also applied to show if residuals is homogenous or heterogenous.

Model 1 analyzed the association between synchronization of stock returns and indicators of corporate financing decision. Model 2 tested the association between synchronization of stock returns and indicators of corporate financing decision taking into consideration the effect of firm size. Model 3 tested the association between synchronization of stock returns and indicators of corporate financing decision taking into consideration the effect the type of the industry.

Model 1 shows that for Dividend Information Ratios, the results indicate that only Dividend yield ratio is found statistically significant and negative with synchronization of stock returns. Dividend yield ratio has negative impact on stock return synchronicity which mean that if dividend yield decreases, it results in increasing the market prices of firm and vice versa. The result regarding dividend yield indicates that larger firms which have high growth will have more investment opportunities as compared to smaller firm so they pay fewer dividends to the stockholders. Heaney and Pavlov (2004), also found the negative impact of dividend yield ratio on firm stock prices. So, the first hypothesis is accepted. There is a significant relation between Dividend Information Ratios and synchronization of stock returns.

Moreover, for model 2, the analysis shows that firm size has great effect on the synchronization of stock returns. The firms' size is examined through dummy

variables using the natural log of total assets. The results indicate that corporate size has significant and positive effects on stock return synchronization. So, the second hypothesis is accepted. There is a significant relation between firm's size and synchronization of stock returns.

As for the effects of types of industries (Model 3), the results show that the types of industries have no effect on the synchronization of stock returns, since none of 16 industries are statistically significant with the synchronization of stock returns.

With regards to future research pertaining to this area, it can be recommended to apply the same model on the banking Sector and test the effect of the Dividend Policy of the banking sector on the return synchronicity.

References

Ambarish, R., John, K., & Williams, L. (1987). "Efficient signaling with dividends and investments", *Journal of Finance,* Vol. 42 No. 2, p.p. 321–343.

Antoniou, A., Guney, Y. and Paudyal, K. (2006). "The determinants of debt maturity structure: evidence from France, Germany and the UK", *European Financial Management,* Vol. 12 No. 2, p.p. 161-194.

Baker, M. and Wurgler, J. (2004a). "A catering theory of dividends", *Journal of Finance,* Vol. 59 No. 3, pp. 1125-1165.

Baker, M. and Wurgler, J. (2004b). "Appearing and disappearing dividends: the link to catering incentives", *Journal of Financial Economics,* Vol. 73 No. 2, pp. 271-288.

Baker, H.K., Singleton, J.C. and Veit, E.T. (2011). Survey Research in Corporate Finance Bridging the Gap between Theory and Practice, Oxford University Press, *Oxford and New York*, NY.

Best R.J. and Best R.W., (2001), "Prior Information and Market Reaction to Dividend Changes" *The Review of Quantitative Finance and Accounting,* Vol. 17, p.p. 361-376.

Benartzi S., Michaely R. and Thaler R., (1997), "Do Changes in Dividends signal the Future or the Past", The Journal of Finance, Vol. 52, p.p. 1007-1043.

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

Bird, R. B., & Smith, E. A. (2005). "Signaling theory, strategic interaction, and symbolic capital", *Current Anthropology*, Vol. 46, pp. 221-248.

Connelly, B., Certo, T., Ireland D., and Reutzel, C. (2011). "Signaling Theory: A Review and Assessment", *Journal of Management,* Vol. 37 No. 1, p.p. 39-67.

DeAngelo, Harry, DeAngelo, Linda and Skinner, Douglas J., (1996). "Reversal of Fortune: Dividend Signaling and the Disappearance of Sustained Earnings Growth", *Journal of Financial Economics,* Vol. 40 No. 3, p.p. 341-371.

DeAngelo, H., DeAngelo, L. and Stulz, R. (2006). "Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory", *Journal of Financial Economics,* Vol. 81 No. 2, p.p. 227-254.

Du Julan, Dai Yi (2005). "Ultimate corporate ownership structures: Evidence from East Asian economies", *Corporate Governance*, vol. 13 No. 1, pp. 60-71.

Durnev, A., Morck, R. and Yeung, B. (2004b). "Value-Enhancing Capital Budgeting and Firm-Specific Stock Return Variation", *Journal of Finance,* Vol. 59, No. 1 p.p. 65-105.

Durnev, A., Morck, R., Yeung, B. and Zarowin, P. (2003). "Does Greater firm-specific Return Variation Mean More or Less Informed Stock Pricing?", *Journal of Accounting Research,* Vol. 41 No. 5, p.p. 797-836.

Eldomiaty, T. (2004), "Dynamics of financial signaling theory and systematic risk classes in transitional economies: Egyptian economy in perspective", *Journal of Financial Management and Analysis*, Vol. 17 No. 2, pp. 41-59.

Eldomiaty. T. (2004), "Signaling Corporate Market Value in Transition Economies: Perspectives from Egypt", *Journal of Economic & Administrative Sciences,* Vol. 20, No. 1, pp. 52 – 70.

Easterbrook, F.H. (1984). "Two agency-cost explanations of dividends", *American Economic Review*, Vol. 74 No. 4, pp. 650-659.

Elton, E.J. and Gruber, M.J. (1970). "Marginal stockholder tax rates and the clientele effect", *Review of Economics and Statistics*, Vol. 52 No. 2, pp. 68-74.

Fama, E., Fisher, L., Jensen, M., & Roll, R. (1969). "The adjustment of stock prices to new information", *International Economic Review*, Vol. 10 No. 1, pp. 1–21.

Fama, E.F. and French, K.R. (2001). "Disappearing dividends: changing firm characteristics or lower propensity to pay?", *Journal of Financial Economics,* Vol. 60 No. 1, pp. 3-43.

Gordon, M.J. (1959). "Dividends, earnings and stock prices", *Review of Economics and Statistics,* Vol. 41 No. 2, pp. 99-105.

Gordon, M.J. (1963), "Optimal investment and financing policy*", Journal of Finance,* Vol. 18, No. 2, pp. 264-272.

Grullon, Gustavo, Michaely, Roni and Swaminathan, Bhaskaran, (2002). "Are Dividends Changes a Sign of Firm Maturity?", *The Journal of Business* Vol. 75 No. 3, pp. 387-424.

Hausman, J. A. (1978), "Specification Tests in Econometrics". *Econometrica,* p.p. 1251-1271.

Hausman, J. A., Taylor, & William, E. (1981), "Panel Data and Unobservable Individual Effects", *Econometrica,* p.p. 1377-1398.

Jensen, M.C. and Meckling, W.H., (1976). "Theory of the firm: managerial behavior, agency costs and ownership structure", *Journal of Financial Economics,* Vol. 3 No. 4, pp. 305-360.

Jensen, M.C. (1986). "Agency costs of free cash flow", American Economic Review, Vol. 76 No. 2, pp. 323-329.

John, K. and Williams, J. (1985). "Dividends, dilution, and taxes: a signaling equilibrium", *Journal of Finance*, Vol. 40 No. 4, pp. 1053-1070.

Lie, Erik, (2005). "Operating Performance Following Dividend Decreases and Omissions*", Journal of Corporate Finance*, Vol. 12 No. 1, pp. 27-53.

Lintner, J. (1956). "Distribution of income of corporation among dividends retained earnings and taxes", *American Economic Review,* Vol. 46 No. 2, pp. 97–113.

Miller M. and Rock K. (1985) "Dividend Policy under Asymmetric Information", *The Journal of Finance*, Vol. 40, p.p. 1118-1141.

Miller, M.H. and Scholes, M. (1978). "Dividends and taxes", *Journal of Financial Economics,* Vol. 6 No. 4, pp. 333-364.

Miller, M.H. and Scholes, M. (1982). "Dividends and taxes: some empirical evidence*", Journal of Political Economy,* Vol. 90 No. 6, p.p. 1118-1141.

Miller Merton H., Modigliani Franco (1963). "Corporate taxes and the cost of capital: A correction", *The American Economic Review,* Vol. 53 No. 3, pp. 433-443.

Mueller, D.C. (1972). "A life cycle theory of the firm", *Journal of Industrial Economics,* Vol. 20 No. 3, pp. 199-219.

Penman, S.H. (1991), "An evaluation of accounting rate of return", *Journal of Accounting, Auditing, and Finance,* Vol. 6, No. 2, p.p.233–255.

Penman, S.H. (1996), "The articulation of price-earnings ratios and market-to-book ratios and the evaluation of growth*", Journal of Accounting Research,* Vol. 34, No. 2, p.p.235–259.

Penman, S. H. (2003), Financial Statement Analysis and Security Valuation. 2nd edition, McGraw-Hill Education.

Ramsey, J. B. (1969), Tests for Specification Errors in Classical Linear Least Squares Regression Analysis. *Journal of Royal Statistical Society*, 350-371.

Roll, R. (1988). R-squared. *The Journal of Finance*, Vol. 43, pp 541-566.

Ross, S. A. (1977), "The determination of financial structure: The incentive signaling structure", *Bell Journal of Economics*, Vol. 8, pp. 23-40.

Rozeff, M.S. (1982), "Growth, beta and agency costs as determinants of dividend payout ratios", *Journal of Financial Research*, Vol. 5 No. 3, pp. 249-258.

Sapra, S. (2005). A regression error specification test (RESET) for generalized linear models. Economics Bulletin, 1-6.

Thursby, J. G., & Schmidt, P. (1979). Alternative Specification Error Tests: A Comparative Study. *Journal of the American Statistical Association*, 222-225.

Walter, J.E. (1963). "Dividend policy: its influence on the value of the enterprise", *Journal of Finance,* Vol. 18 No. 2, pp. 280-291.

Watts, Ross, (1973). "The Information Content of Dividends", *The Journal of Business,* Vol. 46 No. 2, pp. 191-211.

Wooldridge, & Jeffrey, M. (2006). Introductory Econometrics-A Modern Approach. Thomson South-Western, International Student Edition.