The Role of Market Fluctuation and Imperfection on Dividends Smoothing

Masoud Taherinia[1], Abas Talari[2]

[1] Assistant Professor, Department of Accounting, Lorestan University, Khoramabad, Iran

[2] Ph.D. Student in Accounting, Faculty of Economics, Islamic Azad University, Khomein Branch, Iran

Abstract: This study aimed to investigate the effect of market fluctuation (earnings fluctuation) and imperfection on dividend smoothing. In this study, environmental uncertainty is used as a market fluctuation index calculated by the standard deviation of profitability changes over three years. In order to investigate the issue, data on companies listed in Tehran Stock Exchange for 9 years, that is, 2011-2019, were extracted, and a panel regression model was used to test the research hypotheses. The results showed that the information asymmetry in inefficient markets motivates managers to manipulate and smooth profits to achieve their goals. Dividend smoothing is a function of market imperfection and fluctuates and changes in various levels of environmental uncertainty. It, environmental uncertainty leads to the difference in smoothing the dividends between companies operating in conditions of high environmental uncertainty and companies operating in conditions of low environmental uncertainty. Environmental uncertainty increases overall ambiguity about the company by creating incomplete information. It causes benefits for certain investors from obtaining private information about the company.

Keywords: dividend smoothing, market fluctuation, market imperfection.

市场波动和不完善对股息平滑的作用

摘要：本研究旨在调查市场波动（收益波动）和不完善对股息平滑的影响。在本研究中，环境不确定性被用作通过三年盈利变化的标准差计算的市场波动指数。为研究该问题，提取了德黑兰证券交易所上市公司9年（即2011-2019年）的数据，并采用面板回归模型对研究假设进行检验。结果表明，低效市场中的信息不对称激励管理者操纵和平滑利润以实现其目标。红利平滑是市场不完善和各种环境不确定性水平的波动和变化的函数。环境不确定性导致在高环境不确定性条件下运营的公司和在低环境不确定性条件下运营的公司之间的股息平滑差异。环境的不确定性通过创建不完整的信息增加了公司的整体模糊性。它使某些投资者从获取有关公司的私人信息中受益。

关键词：股息平滑、市场波动、市场不完善。

1. Introduction

The role of dividends in transmitting useful information about the company's future performance has led to a change in the attitude of managers and investors towards fluctuations in dividends. Dividends are a function of both smoothing and signaling hypotheses due to their predictive power. The signaling hypothesis states that dividends can predict future earnings and prices. The dividend smoothing concept presents the importance of dividends [1], and the dividend smoothing indicates that the dividend trend is a function of current and past earnings [2]. The signaling theory states that the dividend policy acts as a communicator and can transmit important information to the investors about the company's future expectations [3]. The traditional approach to dividends is based on Lintner [4], who states that corporate executives adjust dividend payments based on long-

term goals and current earnings. However, by increasing the information asymmetry between informed and uninformed investors, the company's capital cost will increase [5]. When there are more informed investors, prices reflect private information more quickly and reduce the risk of information asymmetry to uninformed investors [6]. In addition, fully competitive markets reduce the extent to which information asymmetries can be exploited and thus reduce the profits made by informed investors.

From the managers' point of view, dividends only decrease if there is no alternative approach, and an increase in dividends occurs when there is confidence in the stability of future cash flows. Investors place a higher value on firms with a stable dividend trend, and the dividend reduction by companies transmits unfavorable information [7]. To this end, managers first determine the dividend and then adjust liquidity decisions to a certain level. As stated in [8], the distribution of dividends plays an important role in listed companies. The firms smooth their dividend payments [9]. Investors see this dividend decline as bad news due to information asymmetries between managers and them. Informed managers divide profits between dividends and investments and increase stock value in the long run.

Investors update their assessment of valuation in response to dividend changes and infer new information from corroborating actions. Therefore, Managers use dividends to communicate information about future changes in earnings [10]. Accordingly, the factor of change in dividends can be considered an investment and financing decision. The dividend smoothing literature states that information asymmetry between shareholders and managers leads to dividend smoothing behaviors [7]. On the other hand, to reduce agency costs due to free cash [11] and external financing costs [12], dividend smoothing is proposed. As stated in [13], a firm's dividend policy issues complicated signals to the investors. Dividends are based on managers' future expectations of earnings, and changes in dividends lead to changes in stock prices.

In contrast, the dividend policy is not important for the firm's value on efficient markets [14]. Accounting information risk can be divided into two components in the context of the capital market environment: the part related to the ambiguity about the efficiency of the market information source and the part related to the distribution of this information. Incomplete efficiency, which leads to environmental uncertainty, weakens the relationship between accounting figures and economic realities and thus provides the conditions for smoothing dividends. Therefore, having a favorable and efficient accounting information environment increases the ability of financial reports to transfer company information and, on the other hand, reduces the smoothing of dividends.

The flow of information in the market environment affects the behavior of market participants. It is natural for market participants to have a different share of this information flow. It is also empirically clear that people have different information. Their information affects their behavior in many ways. That indicates information asymmetry between the two parties of transactions [15]. Environmental uncertainty changes investors' risk-taking and fluctuations in expected returns by increasing information differences and refers to the level of environmental change and environmental complexity [16]. In conditions of environmental uncertainty due to non-dissemination of symmetric information, fluctuations and investment risk increase [17]. Recognizing the effects of environmental uncertainty leads to the transmission of information to shareholders to determine the optimal investment portfolio and selection. It helps shareholders control the behaviors of managers that lead to intensification of volatility. In other words, with increasing environmental uncertainty, investors' sensitivity to dividends increases and makes it difficult to smooth dividends.

Previous research such as [18] and [19] have examined the stability of dividends and free cash flows with an information transparency approach and emphasis on the effect of dividends on the company's free financial resources. In previous research, the sustainability of dividends has been examined in terms of financial resources and within the organization and based on the previous year's dividend. This study tries to explain the effectiveness of dividend smoothing from the capital market perspective in terms of market factors such as inefficiency and environmental uncertainty. On the other hand, due to the incompleteness of the previous year's profit, the smoothing of dividends in terms of current profits and changes in the previous year's dividends have been examined. In this section, we seek to answer whether higher financial uncertainty leads to increased smoothing of dividends in a way that limits the fluctuations caused by profitability change.

2. Hypothesis Development

2.1. Market Inefficiency and Smoothing of Dividends

Signaling theory views that management seeks to convey information about the company's future conditions in various ways. One of these ways is through earnings management [20], [21]. According to the investor recognition hypothesis [22], investors are more likely to invest and trade in transparent companies or come to the conclusion that they are transparent. Improving market efficiency reduces investors' incentives to seek private information by reducing the expected benefits of obtaining private information [23]. It was found in [24] found that

investors' motivation to obtain private information decreases when companies operate on efficient markets. Companies operating in an efficient market are more likely to disclose important information to the public, thus providing more forward-looking information. As a result, market efficiency is expected to reduce the motivation to seek private information.

According to [25], market efficiency primarily affects information symmetry by reducing investors' likelihood of discovering and trading private information. A negative relationship indicates a decrease in unprofitable search activities; hence high market efficiency can improve the average value for the shareholder by reducing search costs. On the other hand, improving market efficiency effectively at least allows some knowledgeable traders to disseminate private information in the public domain and thus reduces information imbalances between traders [23]. In situations where market efficiency is limited, the possibility of symmetrical access to information is reduced. Changes within the organization are not transmitted outside the company in the short term and provide the conditions for changing the dividend approach.

Capital market efficiency models predict that disclosure may reduce the acquisition of private information or be seen as an alternative to information held by investors, thereby reducing the motivation or ability of investors to obtain private information. As a result, unsuspecting traders are more likely to trade stocks of companies with high trading volume and high liquidity. This output is since greater transparency enhances stock market liquidity and reduces transaction costs per firm share [24]. According to information economics theory, market inefficiency increases information asymmetry between managers and investors. As market inefficiency increases, the conditions for smoothing dividends to achieve the company's goals are provided. The research results of [26] suggest that the smoothing of dividends is greater among companies that do not have financial constraints than companies that are sensitive to agency conflicts. As stated in [27] concluded that companies with high investment opportunities pay lower dividends to maintain low-risk debt capacity. This idea is confirmed by [28], stating that if the firm's capital structure absorbs shocks to its income to enable dividend smoothing, it is beneficial to do so when there is sufficient unused debt capacity.

Capital market efficiency models predict that disclosure may reduce the acquisition of private information or be seen as an alternative to information held by investors, thereby reducing the motivation or ability of investors to obtain private information. As a result, informal traders are more likely to trade stocks of companies with high trading volume and high liquidity. This output is because greater transparency enhances stock market liquidity and reduces transaction

costs per firm share [24]. According to information economics theory, market inefficiency increases information asymmetry between managers and investors. With increasing market inefficiency, conditions are provided for smoothing dividends to achieve the company's goals.

Hypothesis 1: Environmental uncertainty has a significant effect on dividend smoothing.

2.2. Environmental Uncertainty and Dividends Smoothing

Inefficient information environments, the symmetrical distribution of information reduces the opportunistic cash flows of managers for personal gain. Reducing environmental uncertainty improves the company's intrinsic value and reduces the company's cost of capital. On the other hand, the quality of the information environment changes the expected risk associated with cash flows [29]. In case of uncertainty, the information content of the profits reported by the companies operating in the market decreases and leads to low-quality profits. Dividends reduce investors' uncertainty [30]. Investors can process earnings information so that poor earnings quality can increase information asymmetries in financial markets [24].

Accounting accruals include items that reflect management's expectations of uncertain future events and therefore have a measurement error to some degree. In the face of high environmental uncertainty, investors have to incur high information processing costs because accounting accruals are inaccurate and may be subject to biased measurements of future events. Environmental uncertainty is associated with the risk of poor selection. Informed investors have a greater advantage over companies operating in volatile and ambiguous environments. Under these conditions, the abnormal returns earned by informed investors increase, but for other shareholders, the risk of adverse selection increases due to changing dividend approaches [2].

Business units operating in highly uncertain environments benefit more than units operating in sustainable environments; thus, combining organizational research and learning increases the value of improvement and development due to recognizing possible capital opportunities [31]. In order to benefit from the knowledge gained as a result of research and exploration, the business unit modifies or changes the investment that may be made in the form of changing the production process or offering new products and services. In other words, in conditions of environmental uncertainty, managers and shareholders maintain investment risk at a certain level, increase and improve regulatory strategies, and review and control the results of managers' decisions in different periods. It reduces the likelihood of incurring costs due to missed opportunities and changing dividends to a minimum.

Hypothesis 2: Market inefficiency has a significant effect on dividend smoothing.

Hypothesis 3: In environmental uncertainty, market efficiency leads to differences in the smoothing of dividends between companies.

3. Research Method

3.1. Sample Selection

This research is based on firms listed on the Tehran stock exchanges in Iran. We begin with an initial sample of 4,983 firm-year observations from 2011–2019. The Rahavard software provides the relevant variables. A total of 1,067 firm-year observations relating to finance, investment, equity trust, and funds were excluded because of their different practices. Also, financial institutions have distinct requirements to hold cash to meet operating and financing activities, so they were excluded from the sample. Further, we exclude all the unavailable firm-year observations of information asymmetry variables. Therefore, the final sample has 1,309 firm-year observations.

3.2. Dependent Variable Measure

According to prior research, the following model is estimated for each year to measure the level of dividend smoothing. The coefficient of dividends of the previous year is considered as the smoothing of the dividend in each year, so that the smaller the

coefficient obtained, indicates the smoothing of the dividend; therefore, in order to harmonize the coefficient, it is multiplied by -1:

$$\Delta DIV_{it} = \alpha_0 + \beta_1 E_{it} + \beta_2 DIV_{it-1} + \pounds \qquad (1)$$

where ΔDIV is dividend changes, E is profit, and DIV_{it-1} shows the dividend of the company's previous year. We use dividends smoothing (ΔDIV) as dependent variables to test H1 to H3.

3.3. Independent Variables Measure

Our independent variables represent market inefficiency and environment uncertainty as an indicator of market fluctuation. Market inefficiency (*IMPERFECT*) is calculated as the ratio of the number of shares traded during the year to the average number of stocks issued at the beginning and end of the period, according to research by [32]. Also, we use a measure of environmental uncertainty (*VIX*) to calculate the environmental uncertainty proxy, which is used as the independent variable to test H_2. The standard deviation of profitability changes over three years is used to measure environmental uncertainty (*VIX*). The use of standard deviations to measure environmental uncertainty has been used by researchers such as [33].

3.4. Regression Specification for Testing H1 to H2

The following regression is run to investigate the dividends Smoothing based on market inefficiency and environmental uncertainty.

$$DIV_{it} = \beta_0 + \beta_1 VIX_{it} + \beta_2 IMPERFECT_{it} + \beta_3 INST_{it} + \beta_4 ROA_{it} + \beta_5 GRW_{it} + \beta_6 STDOCF_{it} + \beta_7 CONSER_{it} + \beta_8 CO\_OWN_{it} + \beta_9 SIZE_{it} + \beta_{10} LOSS_{it} + \beta_{11} LEV_{it} + IND \& YEAREFFECT + \varepsilon \qquad (2)$$

where *DIV* measures the smoothing dividends, *IMPERFECT* and *VIX* are market inefficiency and environmental uncertainty as defined earlier, respectively. *Size* is the natural logarithm of the market value of equity in millions at the end of year t. *CONSER* is defined as the ratio of current earnings shocks to earnings news. Current earnings shocks and earnings news are estimated based on a parsimonious vector autoregressive (VAR) model with three variables: the log of stock returns, log of one plus return on equity, and book-to-market ratio. *ROA*, return on asset, is the income before extraordinary items scaled by lagged total assets. *LEV* is total long-term debt plus total debt in current liabilities scaled by total assets. *LOSS* is an indicator variable equal to one for firm years with negative income before extraordinary items. *CO_OWN* is the shares held by owners who hold more than 5%. *STDOCF* is the standard deviation of operating cash flow over the three past years. *INST* is the percentage of shareholding by institutional investors, and *GRW* is equal to the changes in sales. Finally, regression analysis control for the industry and year effect.

4. Results

4.1. Descriptive Analysis

Table 1 presents descriptive statistics for our sample. It summarizes the descriptive statistics for market inefficiency, environmental uncertainty, and other control variables used in multivariate regression analyses. The average dividend smoothing is -0.055 due to its low level, which indicates a change in dividends to control its credit position among investors. The mean of the accounting conservatism variable shows the limited level of conservatism among firms. The mean of the IMPERFECT variable is 0.216, which indicates the low level of capital market efficiency. The ownership structure of the firms consists of 71% institutional shareholders. An average of 13% of environmental uncertainty indicates volatility in the sales process of firms. The leverage mean is 0.635, indicating that firms' resources are financed from debt, and the sample firms are highly leveraged. The mean return on assets is 0.112, indicating a return of 11 money units on investment in 100 money unit assets. The LOSS variable indicates that 6% of companies have negative performance. The mean volatility of cash flows is 0.015. By analyzing the coefficient of variation

of the data, it can be stated that the independent and dependent variables have a normal distribution [34].

Table 1 Descriptive statistics

Variable	N	Mean	Median	Min	Max	STD
DIV	1309	-0.055	-0.505	-0.934	1.000	0.817
VIX	1309	0.133	0.094	0.001	0.848	0.119
IMPERFECT	1309	0.216	0.995	0.010	0.174	0.440
SIZE	1309	5.992	5.916	4.395	8.520	0.600
GRW	1309	0.072	0.063	-0.775	0.776	0.207
CONSER	1309	0.000	-0.000	-0.005	0.032	0.003
STDOCF	1309	0.015	0.010	0.000	0.129	0.016
INST	1309	0.716	0.817	0.010	0.990	0.274
ROA	1309	0.112	0.049	-0.165	1.185	0.168
CO_OWN	1309	0.670	0.701	0.050	0.990	0.204
LOSS	1309	0.065	0.000	0.000	1.000	0.247
LEV	1309	0.635	0.648	0.040	1.740	0.215

4.2. Correlation Analysis

Table 2 reports the correlation coefficients between dividend smoothing and explanatory variables. The explanatory variables are not highly correlated, suggesting that multicollinearity is not a concern. These correlation coefficients also have expected signs.

Table 2 Correlation

VAR	CONS	COOWN	DIV	GRW	IMPERFECT	INST	LEV	LOSS	ROA	SIZE	STDOCF	VIX
CONS		-0.044	-0.010	-0.052	0.004	-0.021	0.061	-0.001	0.012	-0.009	-0.014	0.098
COOWN	-0.044		0.026	-0.055	0.059	0.625	0.072	0.066	0.013	0.024	-0.135	-0.010
DIV	-0.010	0.026		-0.070	-0.016	0.037	0.016	0.007	0.012	-0.085	0.052	0.053
GRW	-0.052	-0.055	-0.070		0.022	-0.070	-0.081	-0.003	0.093	-0.015	0.011	-0.119
IMPERFECT	0.004	0.059	-0.016	0.022		0.074	-0.003	0.074	0.010	-0.050	-0.033	0.022
INST	-0.021	0.625	0.037	-0.070	0.074		0.065	0.075	-0.056	-0.010	-0.130	-0.055
LEV	0.061	0.072	0.016	-0.081	-0.003	0.065		0.090	-0.060	0.086	-0.098	0.187
LOSS	-0.001	0.066	0.007	-0.003	0.074	0.075	0.090		-0.179	0.132	-0.007	-0.016
ROA	0.012	0.013	0.012	0.093	0.010	-0.056	-0.060	-0.179		-0.386	0.110	0.088
SIZE	-0.009	0.024	-0.085	-0.015	-0.050	-0.010	0.086	0.132	-0.386		-0.077	-0.119
STDOCF	-0.014	-0.135	0.052	0.011	-0.033	-0.130	-0.098	-0.007	0.110	-0.077		0.276
VIX	0.098	-0.010	0.053	-0.119	0.022	-0.055	0.187	-0.016	0.088	-0.119	0.276	

4.3. Regression Analysis

While descriptive statistics and correlation analysis are informative, more conclusive evidence can be obtained through multivariate regression analysis that controls many firm-specific variables [35] affecting dividend smoothing.

Table 3 presents the multivariate regression analysis for H_1 and H_2. Columns 1 and 2 present the findings for H_1 and H_2, where dividend smoothing is the dependent variable, environmental uncertainty and market inefficiency are independent variables, respectively. We use two different measures for independent variables, *VIX* and *IMPERFECT*. Initially, baseline regression ran to test the impact of *VIX* on dividend smoothing. Columns 1 present the baseline regression. The results show that *VIX* has a positive association with the measure of dividend smoothing, indicating that firms active in the un-stable environment have higher dividend smoothing than firms active in the stable environment. The coefficient of *VIX* (coefficient = 0.740, t-statistics = 1.901) shows a negative association with the dividend smoothing. The result is statistically significant at the 10% level. The coefficients and the statistical significance of the findings support H_1.

In columns 2, include several and firm-specific control variables and test the impact of *IMPERFECT* on dividend smoothing. Column 2 presents the findings for H_2. In other words, it presents the test of the effect of market inefficiency on dividend smoothing behavior and whether this association varies when there is a different level of market inefficiency. The results indicate that firms active in inefficient markets (*IMPERFECT*) have high dividend smoothing (coefficient = 0.010; t-statistics = 1.662), and the coefficients are statistically significant at the 10% level. Thus, H_2 is supported. In column 3, we can see the merged multivariate regression analysis. It confirms the H_2 result (coefficient = 0.028; t-statistics = 1.707) and, H_1 is significant (coefficient = 1.314; t-statistics = 2.719) indicating that environmental uncertainty increase the dividend smoothing.

In regards to the control variables, we find that large firms (coefficient = -1.668, -0.019 and -0.043; t-statistics = -8.351, -0.168 and -0.572), have lower dividend smoothing and firms with more growth opportunity (coefficient = -0.291, -0.642 and -0.541; t-

statistics = -1.828, -1.931 and -1.834) show a negative association with dividend smoothing. Also, *INST* shows a negative association (coefficient = 0.262, -0.106 and -0.030; t-statistics = 1.290, -0.674 and -0.229) which indicates that firms with a higher institutional ownership expect lower dividend smoothing. Firms with inappropriate performance (*LOSS*) also show a positive association with dividend smoothing, which indicates the inappropriate performance of firms caused higher dividend smoothing within the firms. Most of the discussed coefficients are statistically significant at better than the 10% level. Our results are robust, considering the industry and year effect. Our multivariate regression models show that the R-square between the three approaches ranges from 14.6% to 46.6%.

Table 3 Regression result

VARIABLES	VIX	IMPERFECT	ALL	VIF
VIX	0.740* (1.901)		0.028* (1.707)	1.251
IMPERFECT		0.010* (1.662)	1.314*** (2.719)	1.170
CONSER	0.669 (0.719)	-2.340 (-0.547)	-2.429 (-0.675)	1.336
CO_OWN	-0.034 (-0.132)	0.066 (0.196)	0.064 (0.312)	2.012
GRW	-0.291* (-1.828)	-0.642* (-.931)	-0.541*** (-1.834)	1.951
INST	0.262*** (1.290)	-0.106 (-0.674)	-0.030 (-0.229)	1.561
LEV	-0.065 (-0.210)	0.321* (1.742)	0.013 (0.080)	1.645
ROA	-0.179** (-0.613)	-0.430 (-1.343)	-0.577* (-1.823)	1.920
SIZE	-1.668*** (-8.351)	-0.019 (-0.168)	-0.043 (-0.572)	1.254
STDOCF	8.390*** (3.153)	8.240** (2.525)	11.223*** (4.686)	1.846
LOSS	-0.126 (-0.906)	0.008 (0.056)	0.175 (0.910)	2.124
Intercept	9.755*** (8.049)	-0.220** (-0.483)	-0.395 (-1.426)	-
Observations	*1,309*	*1,309*	*1,309*	
R-squared	*0.146*	*0.466*	*0.204*	
F-statistic	*16.524 (0.000)*	*18.602 (0.000)*	*23.127 (0.000)*	

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. (t-statistics in parentheses).

5. Discussion

In this study, the smoothing of dividends based on market inefficiency and environmental uncertainty (market fluctuation) has been studied. The results of the first hypothesis of the research on the effect of environmental uncertainty on the smoothing of dividends have been confirmed. The information environment in which investors trade is constantly changing with the release of information. This change in information flow leads to a reassessment of risk by investors. The results of the findings of the first hypothesis are consistent with the research of [36].

The results of the second hypothesis of the research on the effect of market inefficiency on the smoothing of dividends have been confirmed. It showed that the information asymmetry in inefficient markets motivates managers to manipulate and smooth profits to achieve their goals. The results of this hypothesis are consistent with the research of [37].

In connection with the third hypothesis of the research, environmental uncertainty leads to the difference in smoothing the dividends between companies operating in conditions of high environmental uncertainty and companies operating in conditions of low environmental uncertainty. Environmental uncertainty increases overall ambiguity by creating incomplete information and thus the benefit that certain investors gain from obtaining private information about the company. The results of these hypotheses are consistent with the research of [24] and [30].

6. Conclusion

In an environment of higher uncertainty (more fluctuations in profitability), management, by manipulating and smoothing profits, aims to increase the predictability of profits for investors. Because less volatile profits increase the predictability of future financial information. That itself causes information asymmetry, but due to management's efforts to provide reliable information, information asymmetry is less than normal. Having an information environment that reduces ambiguity and uncertainty increases the investor's ability to predict and analyze. Environmental

uncertainty leads to a loss of balance between risk and return and makes it difficult for investors to make decisions. Information in such cases will play an important role in reducing uncertainty. Under these conditions, the smoothing of dividends increases due to fluctuations in information transmission.

Increasing market efficiency facilitates the analysis and identification of financial information to avoid incorrect selection and prevents excess costs. If the market does not have the necessary efficiency, access to information is limited, and managers will have the opportunity to achieve the desired benefits and smooth dividends.

6.1. Suggestions and Contributions

This study indicates that in conditions of environmental uncertainty and inefficient markets, the managers motivate to do earnings management due to information asymmetry. Therefore, due to the environmental conditions of the Tehran stock exchange and its inefficiency, it is recommended that companies' stakeholders pay attention to the possibility of profit management and manipulation by managers. Especially, it is recommended that Shareholders increase their oversight and control earnings management through general assembly approvals and annual audits or executive bonuses. It Suggestions for researchers who will carry out further research are expected to add other variables other than those the author studied or can replace one or several variables with other variables such as capital structure, environmental, economic structure, or industry kind and can increase the time and extend the research period.

6.2. Limitations

This study did not examine companies by industry. The effect of macroeconomic variables such as sanctions and inflation has not been considered. Another limitation is the lack of adjustment of financial statement items due to inflation, affecting the research results. It is necessary to pay attention to Iran's cultural, economic, and social conditions, especially international sanctions, To use this article in other countries.

References

[1] DZIDIC A., & ORSAG S. Dividend smoothing and investor protection. *Zagreb international review of economic & business*, 2019, 22(2): 55-70. https://doi.org/10.2478/zireb-2019-0020
[2] GODDARD J. D., MCMILLAN G. J., and WILSON O. S. Dividend smoothing vs dividend signaling: evidence from UK firms. *Managerial Finance*, 2006, 32(6): 493-504. https://doi.org/10.1108/03074350610666229
[3] KARUNARATHNE M. B. D. N., SEWWANDI A. K. Y., SUBHASHINI I. B. N., and WICKRAMA ARACHCHIGE T. O. The Signaling Effect of Dividends on The Market & Financial Performance of Listed Companies in Sri Lanka. *International Journal of Academic Research in Business and Social Sciences*, 2021, 11(1): 233-249. http://dx.doi.org/10.6007/IJARBSS/v11-i1/8471
[4] LINTNER J. Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economic Review*, 1956, 46(2): 97-113. https://www.jstor.org/stable/1910664
[5] TOSKI O., JANANI M., and HEMATFAR M. Measuring and explaining the probability of informed trading and its relation between with the cost of capital with an emphasis on family ownership. *International Journal of Nonlinear Analysis and Applications*, 2020, 11(5): 63-79. https://dx.doi.org/10.22075/ijnaa.2020.4525
[6] AKINS B., NG J., and VERDI R. Investor competition over information and the pricing of information asymmetry. *The Accounting Review*, 2012, 87(1): 35–58. https://dx.doi.org/10.2139/ssrn.1769905
[7] GUTTMAN I., KADAN O., and KANDEL E. Dividend stickiness and strategic pooling. *The Review of Financial Studies*, 2010, 23(12): 4455-4495. https://doi.org/10.1093/rfs/hhq096
[8] BRAV A., GRAHAM J., HARVEY C., and MICHAELY R. Payout Policy in the 21st Century. *Journal of Financial Economics*, 2005, 77: 483–527. https://doi.org/10.1016/j.jfineco.2004.07.004
[9] PANAGIOTIS A., STYLIANOS A., and AICHEN Z. Dividend smoothing and credit rating changes. *The European Journal of Finance*, 2021, 27(1-2): 62-85. https://doi.org/10.1080/1351847X.2020.1739101
[10] CHARLES G. H., ZACHARY R. K., and MARK T. L. Do dividends convey information about future earnings? *Journal of Financial Economics*, 2020, 136 (2): 547-570. https://doi.org/10.1016/j.jfineco.2019.10.006
[11] LAMBRECHT. M., & MYERS, S. C. A Linter model of payout and managerial rents. *The Journal of Finance*, 2012, 67(5): 1761-1810. https://doi.org/10.1111/j.1540-6261.2012.01772.x
[12] AIVAZIAN V. A., BOOTH L., and CLEARY S. Dividend smoothing and debt ratings. *Journal of Financial and Quantitative Analysis*, 2006, 41(2): 439-453. http://dx.doi.org/10.1017/S0022109000002131
[13] WIJEKOON W., and SENAVIRATHNE, L. Impact of Dividend Policy on Firm Performance Evidence from Listed Companies in Colombo Stock Exchange. *Global Scientific Journals*, 2019, 7(10): 225-239. https://www.globalscientificjournal.com/researchpaper/IMPACT-OF-DIVIDEND-POLICY-ON-FIRM-PERFORMANCE-EVIDENCE-FROM-LISTED-COMPANIES-IN-COLOMBO-STOCK-EXCHANGE.pdf
[14] AHMETI F., & PRENAJ B. A critical review of Modigliani and Miller's theorem of capital structure. *International journal of economics, commerce and management*, 2015, 3(6): 914-924. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2623543
[15] LAURI A. *Asymmetric Information: Theory and Applications*. Helsinki University of Technology, Helsinki, 2003. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.198.9252&rep=rep1&type=pdf
[16] MUTFI M. Y., PUDJIARTI E. S., and DARMANO S. Analysis of second order person-environment fit on innovative work behavior and individual performance. *Journal of Business Management and Accounting*, 2019,

3(2): 100-113. https://arthatamajournal.co.id/index.php/home/article/view/30

[17] HSU C., NOVOSEOV K., and WANG R. Does Accounting Conservatism Mitigate the Shortcomings of CEO Overconfidence? *The Accounting Review*, 2017, 92(6): 77-101. https://doi.org/10.2308/accr-51718

[18] LOUIS H., & URAN O. Agency conflicts, dividend payout, and the direct benefits of conservative financial reporting to equity-holders. *Contemporary Accounting Research*, 2014, 32(2): 455-484. https://doi.org/10.1111/1911-3846.12085

[19] EBRAHIMI S., BAHRAMINASAB A., and HAMEDI M. Effect of Auditor's Opinion on Stability of Dividend and Free Cash Flow. *Applied Research in Financial Reporting*, 2018, 7(1): 223-247. http://www.arfr.ir/article_68853.html?lang=en

[20] SOHAIL M., Impact of financial reporting quality on the firm's financial performance. *Global Scientific Journals*, 2019, 7(7): 468–481. http://dx.doi.org/10.6007/IJARAFMS/v11-i1/7510

[21] OZILI P. K. Accounting and financial reporting during a pandemic. *Social Science Research Network Electronic Journal*, 2020: 1–8. https://doi.org/10.2139/ssrn.3613459

[22] MERTON R. A Simple Model of Capital Market Equilibrium with Incomplete Information. *Journal of Finance*, 1987, 43: 483-510. https://doi.org/10.1111/j.1540-6261.1987.tb04565.x

[23] VERRECCHIA R. Essays on disclosure. *Journal of Accounting and Economics*, 2001, 32: 97-180. http://dx.doi.org/10.1016/S0165-4101(01)00025-8

[24] DIAMOND D., & VERRECCHIA R. Disclosure, liquidity and the cost of capital. *Journal of Finance*, 1991, 46(4): 1325-1359. https://doi.org/10.1111/j.1540-6261.1991.tb04620.x

[25] BROWN S., & HILLEGIEST S. A. How Disclosure Quality Affects the Level of Information Asymmetry. *Review of Accounting Studies*, 2007, 12: 443–477. https://doi.org/10.1007/s11142-007-9032-5

[26] LEARY M. T., & MICHAELY R. Determinants of dividend smoothing: Empirical evidence. *The Review of Financial Studies*, 2011, 24(10): 3197-3249. https://doi.org/10.1093/rfs/hhr072

[27] FAMA E. F., & FRENCH K. R. Testing trade-off and pecking order predictions about dividends and debt. *The Review of Financial Studies*, 2002, 15(1): 1-33. https://doi.org/10.1093/rfs/15.1.1

[28] FLIERS P. T. What is the relation between flexibility and dividend smoothing? *Journal of international money and finance*, 2019, 92: 98-111. https://doi.org/10.1016/j.jimonfin.2018.12.009

[29] LAMBERT R., LEUZ C., and VERRECCHIA R. Information asymmetry, information precision, and the cost of capital. *Review of Finance*, 2012, 16(1): 1-29. https://doi.org/10.1093/rof/rfr014

[30] KUSTONO A. S., ROZIQ A., and NANGALLA A. Y. A. Earnings Quality and Income Smoothing Motives: Evidence from Indonesia. *The Journal of Asian Finance, Economics and Business*, 2021, 8(2): 821–832. https://doi.org/10.13106/jafeb.2021.vol8.no2.0821

[31] HUCHZERMEIER A., & LOCH C. H. Project management under risk: Using the real options approach to evaluate flexibility in R&D. *Management Science*, 2001, 47(1): 85–101.

https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.614.8299&rep=rep1&type=pdf

[32] MICHAEL J. I., SCOTT E. S., and DAVID B. S. Comparability and Cost of Equity Capital. *Accounting Horizons*, 2017, 31(2): 125-138. https://doi.org/10.2308/acch-51710

[33] DICHEV I. D., & TANG V. W. Earnings volatility and earnings predictability. *Journal of Accounting and Economics*, 2009, 47(1): 160-181. https://doi.org/10.1016/j.jacceco.2008.09.005

[34] XIAODONG X., XIA W., and NINA H. Accounting Conservatism, Ultimate Ownership and Investment Efficiency. *China Finance Review International, Emerald Group Publishing*, 2013, 2(1): 53-77. https://doi.org/10.1108/20441391211197456

[35] BHUIYAN M. B. U., and HOOKS J. Cash holding and over-investment behavior in firms with problem directors. *International Review of Economics & Finance*, 2019, 61(C): 35-51. https://ideas.repec.org/a/eee/reveco/v61y2019icp35-51.html

[36] WU Y. What's behind Smooth Dividends? Evidence from Structural Estimation. *The Review of Financial Studies*, 2018, 31(10): 3979–4016. https://doi.org/10.1093/rfs/hhx119

[37] BAKER H. K., & POWELL G. E. Determinants of corporate Dividend Policy a Survey of NYSE Firms. *Financial Practice and Education*, 2000, 10: 29-40. https://dra.american.edu/islandora/object/auislandora%3A73242/datastream/PDF/view

参考文:

[1] DZIDIC A., 和 ORSAG S. 股息平滑和投资者保护。萨格勒布经济与商业国际评论, 2019, 22(2): 55-70. https://doi.org/10.2478/zireb-2019-0020

[2] GODDARD J. D., MCMILLAN G. J., 和 WILSON O. S. 股息平滑与股息信号：来自英国公司的证据。管理财务, 2006, 32(6): 493-504. https://doi.org/10.1108/03074350610666229

[3] KARUNARATHNE M. B. D. N., SEWWANDI A. K. Y., SUBHASHINI I. B. N., 和 WICKRAMA ARACHCHIGE T. O. 股息对斯里兰卡上市公司市场和财务表现的信号效应。国际商业和社会科学学术研究杂志, 2021, 11(1): 233-249. http://dx.doi.org/10.6007/IJARBSS/v11-i1/8471

[4] LINTNER J. 公司收入在股息、留存收益和税收中的分配。美国经济评论, 1956, 46(2): 97-113. https://www.jstor.org/stable/1910664

[5] TOSKI O., JANANI M., 和 HEMATFAR M. 衡量和解释知情交易的概率及其与资本成本之间的关系，重点是家庭所有权。国际非线性分析与应用杂志, 2020, 11(5): 63-79. https://dx.doi.org/10.22075/ijnaa.2020.4525

[6] AKINS B., NG J., 和 VERDI R. 投资者对信息的竞争和信息不对称的定价。会计审查, 2012, 87(1): 35–58. https://dx.doi.org/10.2139/ssrn.1769905

[7] GUTTMAN I., KADAN O., 和 KANDEL E. 股息粘性和战略汇集。金融研究回顾, 2010, 23(12): 4455-4495. https://doi.org/10.1093/rfs/hhq096

[8] BRAV A., GRAHAM J., HARVEY C., 和 MICHAELY R. 21 世纪的支付政策。金融经济学杂志, 2005, 77: 483–527. https://doi.org/10.1016/j.jfineco.2004.07.004

[9] PANAGIOTIS A., STYLIANOS A., 和 AICHEN Z. 股息平滑和信用评级变化。欧洲金融杂志, 2021, 27(1-2): 62-85. https://doi.org/10.1080/1351847X.2020.1739101

[10] CHARLES G. H., ZACHARY R. K., 和 MARK T. L. 股息是否传达有关未来收益的信息？金融经济学杂志, 2020, 136 (2): 547-570. https://doi.org/10.1016/j.jfineco.2019.10.006

[11] LAMBRECHT. M., 和 MYERS, S. C. 支出和管理租金的短绒模型。金融杂志, 2012, 67(5): 1761-1810. https://doi.org/10.1111/j.1540-6261.2012.01772.x

[12] AIVAZIAN V. A., BOOTH L., 和 CLEARY S. 股息平滑和债务评级。金融与定量分析杂志, 2006, 41(2): 439-453. http://dx.doi.org/10.1017/S0022109000002131

[13] WIJEKOON W., 和 SENAVIRATHNE, L. 股利政策对科伦坡证券交易所上市公司公司业绩证据的影响。全球科学期刊, 2019, 7(10): 225-239. https://www.globalscientificjournal.com/researchpaper/IMPACT-OF-DIVIDEND-POLICY-ON-FIRM-PERFORMANCE-EVIDENCE-FROM-LISTED-COMPANIES-IN-COLOMBO-STOCK-EXCHANGE.pdf

[14] AHMETI F., 和 PRENAJ B. 对莫迪利亚尼和米勒资本结构定理的批判性回顾。国际经济、商业和管理杂志, 2015, 3(6): 914-924. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2623543

[15] LAURI A. 不对称信息：理论与应用。赫尔辛基科技大学，赫尔辛基, 2003. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.198.9252&rep=rep1&type=pdf

[16] MUTFI M. Y., PUDJIARTI E. S., 和 DARMANO S. 二阶人与环境对创新工作行为和个人绩效的拟合分析。商业管理与会计杂志, 2019, 3(2): 100-113. https://arthatamajournal.co.id/index.php/home/article/view/30

[17] HSU C., NOVOSEOV K., 和 WANG R. 会计保守主义能否缓解首席执行官过度自信的弊端？会计审查, 2017, 92(6): 77-101. https://doi.org/10.2308/accr-51718

[18] LOUIS H., 和 URAN O. 代理冲突、股息支付以及向股东提供保守财务报告的直接好处。当代会计研究, 2014, 32(2): 455-484. https://doi.org/10.1111/1911-3846.12085

[19] EBRAHIMI S., BAHRAMINASAB A., 和 HAMEDI M. 审计师意见对股息和自由现金流稳定性的影响。财务报告中的应用研究, 2018, 7(1): 223-247. http://www.arfr.ir/article_68853.html?lang=en

[20] SOHAIL M., 财务报告质量对公司财务业绩的影响。全球科学期刊, 2019, 7(7): 468–481. http://dx.doi.org/10.6007/IJARAFMS/v11-i1/7510

[21] OZILI P. K. 大流行期间的会计和财务报告。社会科学研究网电子期刊, 2020: 1–8. https://doi.org/10.2139/ssrn.3613459

[22] MERTON R. 一个不完全信息的资本市场均衡的简单模型。金融杂志, 1987, 43: 483-510. https://doi.org/10.1111/j.1540-6261.1987.tb04565.x

[23] VERRECCHIA R. 关于披露的论文。会计与经济学杂志, 2001, 32: 97-180. http://dx.doi.org/10.1016/S0165-4101(01)00025-8

[24] DIAMOND D., 和 VERRECCHIA R. 披露、流动性和资本成本。金融杂志, 1991, 46(4): 1325-1359. https://doi.org/10.1111/j.1540-6261.1991.tb04620.x

[25] BROWN S., 和 HILLEGIEST S. A. 披露质量如何影响信息不对称程度。会计研究回顾, 2007, 12: 443–477. https://doi.org/10.1007/s11142-007-9032-5

[26] LEARY M. T., 和 MICHAELY R. 股息平滑的决定因素：经验证据。金融研究回顾, 2011, 24(10): 3197-3249. https://doi.org/10.1093/rfs/hhr072

[27] FAMA E. F., 和 FRENCH K. R. 测试关于股息和债务的权衡和优先顺序预测。金融研究回顾, 2002, 15(1): 1-33. https://doi.org/10.1093/rfs/15.1.1

[28] FLIERS P. T. 灵活性和股息平滑之间有什么关系？国际货币与金融杂志, 2019, 92: 98-111. https://doi.org/10.1016/j.jimonfin.2018.12.009

[29] LAMBERT R., LEUZ C., 和 VERRECCHIA R. 信息不对称、信息精准、资金成本。财务回顾, 2012, 16(1): 1-29. https://doi.org/10.1093/rof/rfr014

[30] KUSTONO A. S., ROZIQ A., 和 NANGALLA A. Y. A. 收益质量和收入平滑动机：来自印度尼西亚的证据。亚洲金融、经济和商业杂志, 2021, 8(2): 821–832. https://doi.org/10.13106/jafeb.2021.vol8.no2.0821

[31] HUCHZERMEIER A., & LOCH C. H. 风险下的项目管理：使用实物期权方法评估研发灵活性。管理科学, 2001, 47(1): 85–101. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.614.8299&rep=rep1&type=pdf

[32] MICHAEL J. I., SCOTT E. S., 和 DAVID B. S. 股权资本的可比性和成本。会计视野, 2017, 31(2): 125-138. https://doi.org/10.2308/acch-51710

[33] DICHEV I. D., 和 TANG V. W. 收益波动性和收益可预测性。会计与经济学杂志, 2009, 47(1): 160-181. https://doi.org/10.1016/j.jacceco.2008.09.005

[34] XIAODONG X., XIA W., 和 NINA H. 会计稳健性、最终所有权和投资效率。中国金融评论国际，翡翠集团出版, 2013, 2(1): 53-77. https://doi.org/10.1108/20441391211197456

[35] BHUIYAN M. B. U., 和 HOOKS J. 董事问题公司的现金持有和过度投资行为。国际经济与金融评论, 2019, 61(C): 35-51. https://ideas.repec.org/a/eee/reveco/v61y2019icp35-51.html

[36] WU Y. 平滑股息的背后是什么？来自结构估计的证据。金融研究回顾, 2018, 31(10): 3979–4016. https://doi.org/10.1093/rfs/hhx119

[37] BAKER H. K., 和 POWELL G. E. 公司股息政策的决定因素对纽约证券交易所公司的调查。金融实践与教育, 2000, 10: 29-40.

https://dra.american.edu/islandora/object/auislandora%3A73   242/datastream/PDF/view