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整體股票市場股利、盈餘、投資與負債比率間關聯性之實證研究

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摘要

本文利用最小預測誤差/多變量自我迴歸程序來探討股利、盈餘、投資與負債比率間動態因果關係。迄今實證研究至多僅探討其中三變數的關係且結果尚未有定論。根據美國公司的整體經濟資料，本文利用Granger因果方法來檢視融資決策、投資決策及股利政策間是否存在互動關係。實證結果發現：(1)負債比率不受投資決策影響及股利發放不受盈餘多寡影響；(2)投資決策與股利政策彼此互不影響；(3)除上述(1)及(2)所述情況外，股利、盈餘、投資與負債比率間具有相互關聯性。

關鍵詞：整體股票市場，因果關係，股利，盈餘，投資，資產負債比率。

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Empirical Evidence on the Relationship among Dividends, Earnings, Investment and Debt-Asset Ratios for the Aggregate Stock Market

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Abstract

Causal relations and dynamic interactions among dividends, earnings, investments and debt ratios are investigated using the final prediction error (FPE)/multivariate vector autoregression (VAR) approach. Existing empirical studies deal with at most three of these factors at a time and the results are still inconclusive. Based on the whole economic data of the U.S. corporations, this study uses the Granger causality method to examine whether interrelationships exist among financing decisions, investment decisions, and dividend policy. The major findings are: (1) there is no causal relationship from investment to debt ratio and from earnings to dividend, (2) there is no mutual causations between investment and dividends, and (3) there is interdependent relationships among dividends, earnings, investments and debt ratios.

Key Words: Aggregate stock market, Causal relationship, Dividends, Earnings, Investment, Debt-asset ratio.

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1. Introduction and Summary

Miller and Modigliani (1961) have demonstrated that in perfect capital markets the value of a firm is independent of the way the firm chooses to finance its investment. Their argument implies the separation principle stating that investment decisions are not influenced by dividend decisions in perfect capital markets (Fama and Miller, 1972, ch.4, p.145). Thus, investment can be regarded to be "causally prior to" and "exogenous with respect to" dividend because the amount of investment outlay decided upon may be considered in determining current dividends, but not vice versa. In the real world, the capital market is imperfect due to the existence of taxes and transaction costs. The opposing view against "dividend irrelevance" argues that, in practice, the firm must consider financing in its investment decisions. Therefore, the firm's investment, dividend and financing decisions are interdependent since the firm must raise funds and allocate these scarce funds between investments and dividends. Existing empirical evidence on the separation principle is inconclusive.

Higgins (1972) concludes that dividends are functions of profit and investment but that investment does not depend on dividends. Fama (1974) and Smirlock and Marshall (1983) find that no significant relationship exists between dividend and investment decisions. Thus, these findings support the separation principle.

Recognizing that the omission of relevant variables in an equation might misrepresent the relationship between spending (investment and dividend) decisions and fund-raising decisions (new debt), Mccabe (1979), considering variables such as profit, dividend and new debt, finds that investment does not appear to be determined independently of financial variables.

Since, in practice, dividend policy is influenced by both investment opportunities and the availability of funds to finance those opportunities, there seems to exist interdependent relationship among financial decisions, investment deci-

sions and dividend policies. However, to date, most articles focus only on the relationship to at most three of those decisions and have no conclusive answer about the causal relationship among them. Motivated by inconclusive empirical results about the relationship among financing decisions, investment decisions and dividend policies, the purpose of this study based on whole the economic data of the U.S. corporations for the period 1930 to 1984 is to use the FPE/multivariate Granger causality modeling, VAR, technique to identify the causal relationship among dividends, earnings, investments and debt ratios. Since both clientele effects and indenture restrictions that could in principle affect an individual firm's dividend policy are likely to be insignificant in aggregate-dividend analysis, it is indeed necessary to use corporations in the U.S. as a whole to see how the relationship between aggregate dividends and related aggregate variables including earnings, investments, and debt ratio. A potential problem of the Granger test is to employ the same lag length for all variables. In general, if the lag length of any variable is over-specified, the estimators will be unbiased but inefficient while an under-specified lag length will lead to biased estimators with a smaller variance. In order to avoid this potential problem of Granger test, Akaike's final prediction error (FPE) criterion is used to determine the appropriate lag length for each explanatory variable in the model. The multivariate VAR of the approach can provide a rigorous study of the dynamic relations among the variables without imposing a priori restrictions (Lee, 1992). In addition, Keating (1992) mentions that the long-run structural VAR model is preferred to some of the variance decompositions and the impulse responses because the former generally provides empirical results that are more consistent with the structural model.

The rest of the paper is organized as follows. Section 2 describes the potential linkage among dividends, investments, earnings and leverage. Section 3 defines Granger causality more fully and formalizes the model concerning two variables only, which can be generalized to multivariate variables. Section 4 de-

scribes the data and methodology. Section 5 discusses the empirical results. Section 6 concludes the paper.

2. The Linkage among Dividends, Investments, Earnings and Leverage

The potential linkage among dividends, investments, earnings and leverage will be investigated based on the findings from empirical studies or theoretical projections and from practical dividend policy.

2.1 Empirical findings or Theoretical projections

2.1.1 Dividends—Earnings Relationship

Fama and Babiak (1968), Petit (1972), and Watts (1973), focusing on the microbehavior of individual firms, have found that earnings might be the causation of dividend. Their findings support the point that managers tend to change dividends primarily in response to an unanticipated and nontransitory change in their firms' earnings, which is identified by Linter (1956) through personal interview with managers.

2.1.2 Dividends—Debt Ratios Relationship

In general, any increase or decrease in the value of the firm caused by a shift in capital structure accrues to the firm's stockholders (Brealey and Myers, 1988, ch.17, p.400). Thus, shifts in capital structure sometimes might force important decisions about dividend policies since cash dividends have costs (tax-effect) or benefits (signaling-effect) which should be considered in addition to any benefits achieved by firm's increased in debt ratio. Thus, the relationship between dividend and debt ratio still needs to be further identified.

2.1.3 Earnings—Debt Ratios Relationship

This issue is still inconclusive based on the trade-off and the pecking order theories. Under the trade-off theory, high profits should mean more debt-serving capacity and more taxable income to shield and should give a higher target debt ratio. However, the pecking order theory assumes that firms adapt their target dividend payout ratios to their investment opportunities while avoiding sudden change in dividends. As a result, there is no well-defined target debt-equity mix because there are two kinds of equity, internal at the top of the pecking order and external at the bottom of the pecking order. Each firm's observed debt ratio reflects its cumulative requirements for external finance. Thus, the pecking order explains that the most profitable firms generally borrow less because they do not need outside money rather than they have low target debt ratios. That is, the pecking order theory indicates that firms with high earnings would tend to have lower target debt ratios. In sum, there seems to be no conclusive relationship between earnings and target debt ratios although there exists high correlation between them regardless which theory is applied.

2.1.4 Investments—Debt Ratios Relationship

In an ideal world with no taxes, transaction costs or other market imperfections, only investment decisions would affect firm's value (Miller and Modigliani, 1961). Under this principle, firms should first worry about which assets to buy and then worry about where to get the money. This implies that investment does not affect debt ratio since debt policy, dividend policy, and all other financing choices would have no impact on stockholders' wealth. In the real world, however, investment decision always has side effects on financing since every dollar spent on a project has to be raised somehow. Thus, it is possible that correlation between investment decisions and debt ratios would exist.

2.1.5 Investments—Earnings—Dividends Relationship

Baumol et al. (1970) finds that the reinvestment of corporate earnings has insignificant importance to future corporate earnings. However, Sasson, Callen and Livnat (1980) find that corporate earnings have significant impact on future investment but not vice versa. In addition, if the earnings may provide a signal about the firm's ability to find and exploit truly profitable investment opportunities, shareholders would like earnings to be reinvested rather than to receive cash dividends, implying dividend will not affect investment. Thus, the relationship among cash dividend, investment and earnings need to be further identified.

2.2 Dividend Policy in Practice

In practice, there are two dividend policies. One is residual dividend policy and the other is constant or steadily increasing dividend. (Brigham and Gapenski, 1987, pp.380-386)

2.2.1 Residual Dividend Policy

Based on the residual dividend payment policy, four steps are needed to decide firm's payout ratio:

(1) Determine the optimal capital budget.
(2) Determine the needed amount of equity.
(3) Use retained earnings to supply this equity.
(4) Pay dividend only if more earnings are available.

A firm's decision about dividends is often mixed up with other financing and investment decisions. Some firms pay low dividends because management is optimistic about the firm's future and wishes to retain earnings for expansion. In this case, the dividend is a residual earnings distributed to shareholders and, thus, is a by-product of the firm's capital budgeting decision. Another firm might finance capital expenditures largely by borrowing. In this case the firm's dividend is a by-product of the borrowing decision. Thus, the residual dividend payment

policy indicates that dividend is a function of many variables including investments, leverage ratios and earnings.

2.2.2 Constant or Steadily Increasing Dividends

Two logical reasons might explain firms prefer taking a stable or predictable dividend policy.

(1) Due to signaling effect a fluctuating payment policy might lead to greater uncertainty and consequently a lower stock price than what would exist under a stable policy.

(2) Stockholders' using dividends for current consumption want to receive dividends on a regular basis, so irregular dividends might lower demand for the stock and cause its price to decline.

Against the residual dividend policy, Miller and Modigliani (1961) argue that corporations are always reluctant to cut dividends, and hence do not raise dividends unless they anticipate higher, or at least stable earnings in the future, which is a "signal" to investors that the firm's management forecasts good future earnings. Conversely, a dividend reduction, or a smaller-than-normal increase, signals that management expects poor earnings in the future.

Therefore, to keep constant or steadily increasing dividends, a mix of actions such as delaying some investment projects, departing from the target capital structure during a particular year, or even selling common stock would be preferable to cutting dividends or reducing the growth rate investors expect. Thus, based on this policy, dividend is a causation of investments, financing decisions or earnings.

Both the practical dividend policies and the empirical or intuitive relationships among dividends, earnings, investments and debt ratios mentioned above imply that, in practice, all relevant decisions concerning dividends, financing, and investments are related to each other.

3. Modeling Causal Relationship

Granger causality and the model tested are discussed in this section.

3.1 Granger Causality

Consider the bivariate stationary stochastic process $Z_t = \{X_t, Y_t\}$, where X and Y are two time series. Supposed that, at time t-1, next-period X_t is to be predicted. If X_t is better predicted by adding the past Y time series to the past X time series than by using the past X time series alone, then Y is said to cause X. Similarly, X is said to cause Y if next-period Y_t is better predicted by the bivariate time series than by the univariate Y series alone. More formally, let $\overline{X}_{t-1}$, $\overline{Y}_{t-1}$, and $\overline{Z}_{t-1}$ denote the set of past values of the earnings, investment, and bivariate time series, respectively, so that $\overline{X}_{t-1} = \{X_{t-1}, X_{t-2}\ldots\}$, $\overline{Y}_{t-1} = \{Y_{t-1}, Y_{t-2}\ldots\}$, and $\overline{Z}_{t-1} = \{X_{t-1}, X_{t-2}\ldots, Y_{t-1}, Y_{t-2}, \ldots\}$. Let $\text{var}(X_t|\overline{Z}_{t-1})$ denote the error in predicting X_t given that the analyst bases predictions on the information set that includes both the past X and the past Y time series. By contrast, let var $(X_t|\overline{Z}_{t-1} - \overline{Y}_{t-1})$ be the error in predicting X_t given that the analyst chooses to exclude the past Y time series for prediction purposes, on the other hand, X_t are predicted on the basis of the past X time series alone.

According to the definition of Granger causality (1980), if var $(X_t|\overline{Z}_{t-1}) <$ var $(X_t|\overline{Z}_{t-1} - \overline{Y}_{t-1})$, then Y is said to cause X if the information set that includes past Y, $\overline{Z}_{t-1}$, gives a better prediction of X than does the same information set without Y, $(\overline{Z}_{t-1} - \overline{Y}_{t-1})$. If the inequality does not hold, then X is said not to cause Y, if var $(X_{t-1}|\overline{Z}_{t-1}|) <$ var $(X_t|\overline{Z}_{t-1} - \overline{Y}_{t-1})$ and if var $(Y_t|\overline{Z}_{t-1}) <$ var $(Y_t|\overline{Z}_{t-1} - \overline{X}_{t-1})$, feedback is said to exist between X and Y.

Masani (1966) pointed out that under fairly general conditions a stationary time series admits an autoregressive representation. By the vector generalization

of Masani's result, a vector stationary time series (Z=(X,Y)) admits a vector autoregressive (VAR) representation. The main difficulty in fitting a VAR model of Z is determining the appropriate lag length of each variable. To identify the appropriate lag length of each variable in a VAR model of Z=(X, Y), Hsiao's (1979, 1981) sequential procedure which is based on the Granger (1969) definition of causality and Akaike's (1969a, b) final prediction error (FPE) criterion are used first and then the maximum likelihood method is used to identify the causal relationship between X and Y. The procedures to identify the model are:

(1) The autoregressive equation of X is specified by regressing X on its own lags, i.e.,

$$X_t = \phi_{10} + \sum_{i=1}^{l} \phi_{11,i} X_{t-i} + v_t, \quad t = 1, 2....., n, \tag{1}$$

where n is the number of observations, V_t is the error term, and the lag length l is varied from 1 to M (where M is fixed at 15). The value of l which minimizes

$$FPE_l = \left[(n+l+1)/(n-l-1)*(SSE_l/n)\right] \tag{2}$$

is considered as the appropriate lag length for X. Let this value of l be m11 and the corresponding FPE is denoted by FPE_{m11}. Note that SSE_l is the sum of squares due to errors from the ordinary least square residuals in model (1).

(2) Once the lag length for the univariate autoregressive model X is fixed at m, the second variable Y is added to (1), i.e.,

$$X_t = \phi_{10} + \sum_{i=1}^{m11} \phi_{11,i} X_{t-i} + \sum_{j=1}^{l} \phi_{12,j} Y_{t-j} + v_t \tag{3}$$

The value of l (again l=1 to 15) which minimizes

$$FPE_{m11,l} = \left\{(n+m11+l+1)/(n-m11-l-1)\right\}*\left(SSE_{m11,l}/n\right) \tag{4}$$

is considered as the appropriate lag length for Y. Let this value of 1 be m12 and let the corresponding FPE be denoted by $FPE_{m11,m12}$.

(3) Then FPE_{m11} is compared to $FPE_{m11,m12}$. If $FPE_{m11} < FPE_{m11,m12}$ then Y does not cause X and is not added to the X equation. Alternatively, if $FPE_{m11} > FPE_{m11,m12}$, then Y cause X and is added to the X equation. (Hsiao 1979, 1981)

(4) Next, the procedures of specification for the equation X are used to specify the equation Y again.

After the equations for X and Y have been specified, the bivariate autoregressive model for Z=(X, Y) in compact notation is

$$X_t = \phi_{10} + \phi_{11}^{m11}(L)X_t + \phi_{12}^{m12}(L)Y_t + v_t \tag{5}$$

$$Y_t = \phi_{20} + \phi_{21}^{m21}(L)X_t + \phi_{22}^{m22}(L)Y_t + u_t \tag{6}$$

where L is the lag operator such that $L^k X_t = X_{t-k}$, $\phi_{ij}^{mij}(L) = \sum_{k=1}^{mij} \phi_{ij,k} L^k$, is a polynomial in lag operator L, $a_t = (v_t, u_t)$ is a vector of white noise process, $E(a_t) = 0$ and $E(a_t * a_s) = \Sigma$, for t=s, and =0 for t=s. The contemporaneous correlation among the variables is reflected in v_t and u_t.

3.2 The Test of the Model

Finally, the causal relationship between X and Y can be tested either by Zellner's (1962) seemingly unrelated regression technique or by the maximum likelihood method. Kmenta and Gilbert (1968) and Dhrymes (1971) have shown that the estimates obtained by iterating Zeller's procedure until convergence are equivalent to the maximum likelihood estimates. The likelihood ratio test is used to test the causal relationship between X and Y. Y causes X if and only if the test result shows that $\phi_{ji}^{mij}(L)$ is significantly different from zero, similarly, X

causes Y if and only if the test result shows that $\phi_{ji}^{mij}(L)$ is significantly different from zero. Let $\sum$ and $\sum'$ be the estimated variance covariance matrix from the unrestricted and the restricted models, then the likelihood ratio statistic is given by -21nh, here

$$h = \left(\frac{|\Sigma'|}{|\Sigma|} \right)^{-\frac{n}{2}} \tag{7}$$

where $|\ |$ denotes the determinant. Note that -21nh is asymptotically distributed as Chi-square with degrees of freedom equal to the number of restrictions imposed in the restricted model.

4. Empirical Design

4.1 The Aggregate Data

To find whether there exists any relationship among dividend and the other three financial variables including investments, earnings and debt ratio, the annual aggregate data of investments, earnings and debt ratio are adopted to make all data of corporate financial variables being tested consistent. The annual aggregate data of each of four financial variables were collected from yearly issue of the STATISTICAL ABSTRACT of the United States.

4.2 Methodology

Hsiao's procedure requires stationary time series. Two tests a Dickey-Fuller (DF) test and the augmented Dickey-Fuller (ADF) test are used to identify the stationary of series. In this study all the variables need to be first differenced to become stationary. The results are listed on table 1. Using the concept of

Granger causality the model is formulated for the four transformed time serieses-dividend, investment, earnings and debt ratio (debt/asset) as,

$$\begin{pmatrix} DIV_t \\ INV_t \\ PRF_t \\ DBR_t \end{pmatrix} = \begin{pmatrix} A_{11}^{b}(L) & A_{12}^{c}(L) & A_{13}^{d}(L) & A_{14}^{e}(L) \\ A_{21}^{f}(L) & A_{22}^{g}(L) & A_{23}^{h}(L) & A_{24}^{i}(L) \\ A_{31}^{j}(L) & A_{32}^{k}(L) & A_{33}^{m}(L) & A_{34}^{n}(L) \\ A_{41}^{o}(L) & A_{42}^{p}(L) & A_{43}^{q}(L) & A_{44}^{r}(L) \end{pmatrix} \begin{pmatrix} DIV_{t-i} \\ INV_{t-i} \\ PRF_{t-i} \\ DBR_{t-i} \end{pmatrix} + \begin{pmatrix} e_{1t} \\ e_{2t} \\ e_{3t} \\ e_{4t} \end{pmatrix}, \quad (8)$$

where

DIV_t = aggregate cash dividends of corporations in U.S.
INV_t = aggregate capital expenditure of corporations in U.S.
PRF_t = aggregate earnings of corporations in U.S.
DBR_t = aggregate debt/asset ratio of corporations in U.S.
e_{it} = error term, i=1,2,3,4

Table 1
Stationary Tests

		DV	INV	PRF	DBR
Before	Dickey-Fuller	0.023950	-0.044080	0.026967	-0.042296
		(1.006)	(-1.049)	(0.556)	(-2.157)
First	Augmented	0.002555	-0.053720	-0.001432	-0.047218
Difference	Dickey-Fuller	(0.112)	(-1.601)	(-0.030)	(-2.282)
After	Dickey-Fuller	-0.654590	-1.435415	-0.850188	-0.893030
		(-5.280)*	(-13.321)*	(-6.289)*	(-6.416)*
First	Augmented	-0.915950	-1.361856	-1.194881	-0.709234
Difference	Dickey-Fuller	(-6.641)*	(-12.322)*	(-8.605)*	(-3.674)*

DV: Dividend INV: Investment Prf: Earnings DBR: Debt/Assets Ratios
*Significant at the 1% level, probability of t-statistics is based on Engle and Yoo (1987)
Note: Null Hypothesis: Ramdom walk; Alternative Hypothesis: Stationarity.

As mentioned above, lags will be fixed using Akaike's criterion of minimizing final prediction error. The seemingly unrelated regression estimation method of Zellner will be used for estimation because the estimates obtained by iterating Zellner's procedure until convergence are equivalent to the maximum likelihood estimates (Dhrymes, 1971). RATS is the software used to estimate the multivariate system. Finally, the adequacy of the model will be tested using the maximum likelihood ratio method.

5. The Empirical Results

To reduce the problem of serial correlation in the time series, the causal model was estimated after the first order difference of the logarithms of the cash dividends, investments, earnings and debt ratio data. In building the multivariate model, Hsiao's FPE criterion is used to find the values of $A_{ij}^{s}(i, j = 1,2....,4)$ in system equations (8). The A_{ij}^{s} for the lowest FPE are reported in table 2.

Table 2
Lead-Lag relationship based on FPE criterion

exogenous / endogenous	DIV_{t-i}	INV_{t-i}	PRF_{t-i}	DBR_{t-i}
DIV_t	1	0	0	4
INV_t	0	1	6	5
PRF_t	9	1	8	3
DBR_t	14	0	8	4

The aggregated model is given as

$$\begin{pmatrix} DIV_t \\ INV_t \\ PRF_t \\ DBR_t \end{pmatrix} = \begin{pmatrix} A_{11}^{1}(L) & 0 & 0 & A_{14}^{4}(L) \\ 0 & A_{22}^{1}(L) & A_{23}^{6}(L) & A_{24}^{5}(L) \\ A_{31}^{9}(L) & A_{32}^{1}(L) & A_{33}^{8}(L) & A_{34}^{3}(L) \\ A_{41}^{14}(L) & 0 & A_{43}^{8}(L) & A_{44}^{4}(L) \end{pmatrix} \begin{pmatrix} DIV_{t-i} \\ INV_{t-i} \\ PRF_{t-i} \\ DBR_{t-i} \end{pmatrix} + \begin{pmatrix} e_{1t} \\ e_{2t} \\ e_{3t} \\ e_{4t} \end{pmatrix},$$

where, $A_{ij}^{k}(L) = A_{ij,1}(L^1) + \ldots + A_{ij,k}(L^k)$.

The results for the causality tests are presented in table 3 and table 4. The implied relationship among dividends, investments, earnings and debt ratios can be summarized as follows:

(1) dividend is the function of debt ratio only.

(2) debt ratio is the function of dividend and earnings.

(3) investment is the function of earnings and debt ratio.

(4) earnings are the function of dividend, investment and debt ratio.

In summary, the empirical findings concerning aggregate data of corporations in U.S. indicate that financial variables, dividends, investments, earnings and debt ratio are not independent on each other.

Table 3
Identification of Causality Based on Likelihood Ratio Test

Hypothesis (H_0)	Chi-Square (X^2)	Result*
$<1> A_{14}^{4}(L) = 0$	11.2591	reject H_0
$<2> A_{23}^{6}(L) = 0$	12.592	reject H_0
$<3> A_{24}^{5}(L) = 0$	11.070	reject H_0
$<4> A_{31}^{9}(L) = 0$	16.919	reject H_0
$<5> A_{32}^{1}(L) = 0$	3.841	reject H_0
$<6> A_{24}^{3}(L) = 0$	7.815	reject H_0
$<7> A_{41}^{14}(L) = 0$	23.685	reject H_0
$<8> A_{43}^{8}(L) = 0$	15.507	reject H_0

*significant at level of 5%

Table 4
Causal relationship among dividend, earnings, investment and debt ratio

to from	DIV	INV	PRF	DBR
DIV		==/==>	====>	====>
INV	==/==>		====>	==/==>
PRF	==/==>	====>		====>
DBR	====>	====>	====>	

6. Conclusions

In this paper, the aggregate data of dividend, investment, earnings and debt ratio are considered simultaneously using Granger causality method. There are several findings worth mentioning in this study.

(1) Aside from being affected by fluctuation of lag-1 period cash dividends current cash dividends are also affected by the fluctuation of the preceding 4 years debt ratio. It implies that shifts in capital structure could force important decision about dividend policy.

(2) When the coefficient of change of debt ratio relative to change of earnings is referred, on average, investment has positive effect on debt ratio, which supports the trade-off theory that firms with high earnings tend to have high target ratio but conflicts with the pecking-order theory that firms with high earnings would tend to lower target debt ratios.

(3) Both earnings and investments have feedback relationship, which is different from the findings of Sasson, Callin and Livnat (1987) that only earnings cause investment but not vice versa and from the finding of Baumol et al.(1970) that investment is not a causation of earnings.

(4) The finding that only debt ratio but not investment affects dividend decision supports both argument of Miller and Modigliani (1961) that investment has no influence on financing policy and the separation principle that investment decision is not influenced by dividend decision and vice versa.

To summarize, the causality results in this study indicate that, except that investment does not cause debt ratio, earnings does not cause dividend and both investment and dividends do not influence each other, all other relevant decisions, dividend, financing and investment decisions are interdependent on each other as expected based on the previous empirical findings or theoretical projections and practical dividend policy. For policy decision to be particularly effective, decision makers must recognize these relevant corporate decisions and, thus, make the right choice to achieve desired objectives. For example, empirical evidence in this study tells us that in addition to signalling effect, debt ratios can also explain the behavior of corporate dividends.

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