



## **Earnings and Dividend Announcements: Are They Interactive? Evidence from the French Context**

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### **ABSTRACT**

In this study, we examine abnormal stock returns surrounding contemporaneous earnings and dividend announcements in order to shed more light on the substantive relationship between these two financial signals. Our focus is to investigate the possible complementary or substitutive effect on a sample of French firms. The empirical evidence indicates that information content of dividends should be examined jointly with earnings announcement. The coefficients of all the dummy variables are uniformly negative and significant above the 1% confidence level. These results are inconsistent with those of Kane et al. (1984). The significant coefficients support the corroboration hypothesis showing a negative interaction between earnings and dividends. This evidence suggests that investors evaluate the two announcements as two offsetting effects in order to meet any unexpected change in the firm's financial policy.

**Keywords:** Earnings, Dividends, Event Studies, Corroboration Effect

**JEL Classifications:** G14, G20, G31, G35, M48

### **1. INTRODUCTION**

Since the work of Walter (1956), Ball and Brown (1968), Beaver (1968), Pettit (1972), Watts (1973) a large part of the finance and accounting literature shifted focus towards analyzing the relevance of financial information published by companies to explain stock market valuation. In recent years, the subject remains a topic and research started increasingly to focus on the importance of dividends change in informing investors about firms' future earnings prospects. Miller and Modigliani (1961) admit that investors could interpret dividends variability as a sign of an anticipated change. In other words, these authors accept the possibility of information content of dividends, yet they consider it compatible with the dividend irrelevance hypothesis.

Market equilibrium theory could not report convincing arguments to support the existence of dividends. Taking into account the real world, several studies sought to further explain the payout policy problem. Signaling theory offers an attractive explanation: Dividend change is considered as a signal through which management convey information to investors. Indeed, insofar as the company maintains a stable dividend policy, an increase

in the payout ratio is often perceived by the market as being an indication that managers anticipate that future cash flows of the business should grow and it follows an increase in stock price. On the other hand, a reduction in dividend is often interpreted by investors as a sign that the company's earnings are expected to decline in the future and therefore a deterioration of the share price.

Information content of earnings has been documented by Ball and Brown (1968), Brown (1970; 1972), Foster (1977), Watts (1978), Beaver et al. (1979), Rendleman et al. (1982), and others. Information content of dividend was developed by Pettit (1972 and 1976), Charest (1978), Aharony and Swary (1980), Asquith and Mullins (1986), Penman (1980), Dielman and Oppenheimer (1984), Kalay (1980), Kalay and Lowenstein (1985), Easton and Sinclair (1989), Chen et al (2009). All these authors examined the signal transmitted by these two types of information separately from each other and few empirical studies examined the possible dual or simultaneous effects of these signals on stock prices.

The methodology adopted for this new research trend is limited not only to study the event following simultaneous earnings and dividend announcement but also to take into account the possibility

of interactions between these two events. This new investigation tendency was initiated by Pettit (1972), Watts (1973) and then developed by Kane et al. (1984). Indeed, according to Pettit (1972), it is not easy to detect information content of dividends since its announcement generally coincides with earnings and consequently stock price may react to the simultaneous effect of these two announcements. Aharony and Swary (1980) examined the effects of announcing dividends paid during different periods of earnings announcement. They found that dividend announcements convey information beyond that included in earnings announcements.

Kane et al. (1984) were among the first to suggest that information content of dividends should be examined jointly with earnings announcement. These authors show that these two vectors of information act somehow interactively over a time interval of 10 days between each announcement. Chen et al. (2002) show that earnings announcement effect is greater when it comes along a dividend rise announcement. Sponholtz (2005) indicates that the market only reacts significantly to dividends announcement while neglecting earnings effect. This result is confirmed by Cheng et al. (2007) who consider dividends as the most important information vector that allows market contributors to assess the firm's future performance against the opportunities and trust presented to management.

Huang (2008) supports the complementarity hypothesis when profit announcement precedes that of dividends. In this case, investors assess the unexpected dividend by consulting reported income level and react accordingly. The author also shows that the relationship between dividend and earnings is more visible when the unexpected change in dividend is negative. The effect of complementarity or substitutability is not observed in the case of dividend announced before earnings disclosure.

The rest of the article is organized as follows: In the second section, we develop the theory of information content of dividends and earnings under the interaction hypothesis. In the third section, we develop the methodology, the variables and the hypotheses to be tested. The empirical validation will be presented in the fourth section. The last section concludes.

## 2. LITERATURE REVIEW

There is, unfortunately, little interest in jointly measuring the information effect of non-anticipated changes in earnings and dividends. In addition to event studies designed to capture the effect of a single event, the methodology used to examine additional informational content supposes the use of regression analysis to assess abnormal performance measuring the interaction between different changes in earnings and dividends. According to Pettit (1972; 1976), it is not easy to detect the informative value of dividend since its announcement generally coincides with earnings publication. In this case, future changes in stock price may result from these two phenomena. To isolate these two effects, the author first considered, as an information source, the unanticipated changes in dividends, and second he determined the effect of the resulting information by classifying companies into two groups: Companies with earnings below expectations and companies with

positive abnormal earnings. Pettit (1972; 1976) found that there is informational significant effect in the month of the announcement, in particular for significant dividend changes, but this result tends to be reversed in the months that follow. Watts (1973), found the opposite result. He notes that unexpected changes in dividends are not a reliable information source to predict future earnings.

According to Outreville (1976), the legal announcement of dividend is not likely to have a relevant impact on stock prices. However, disclosure of unexpected information on earnings and dividends may encourage some investors to take advantage of the situation to achieve abnormal profits from arbitrage activities. In this regard, Bhattacharya (1980) developed a model of dividend signaling where investors periodically readjust a decrease in firm value using the difference between the declared income and earnings conveyed by the dividend. Aharony and Swary (1980) studied the impact of earnings and dividends changes on stock prices. They show that the cumulative abnormal return (CAR) is respectively  $-3.76\%$  for earnings revealed prior to dividend announcement and  $-2.82\%$  for earnings following this announcement.

Kane et al. (1984) focused on the corroborative effect of dividends and earnings in the U.S context. The authors selected a sample of 352 earnings and dividends announcements between 1979 and 1981. The period between the two announcements was 10 days. Considering the Pettit's approach, Kane et al. (1984) confirm most of the previous studies, i.e., information content of the interactive effect of earnings and dividends. Miller and Rock (1985), Miller (1987) applied the Modigliani and Miller's model to an uncertain environment with information asymmetry, where managers use dividends as a signal of current earnings. They concluded that achieving signaling equilibrium requires that insiders do not issue spurious signals (Akerlof (1970)). Subsequently, in order to maximize shareholders' wealth, managers should be able to signal the firm's true situation. In such a case, Miller (1987) upholds that dividend announcement allows investors to know with certainty current earnings, and subsequently to revise their expectations about future profits.

Hoskin et al. (1986) focused on several events including the dividends announcement. The authors classify announcements according to information quality: Good, poor, or neutral information. The obtained results showed that dividend announcement has additional information content compared to information obtained on earnings announcement. Chang and Chen (1991) examined the interactive effect of earnings and dividends announcements. The authors aimed to explore the interaction of the effects of the two signals when they are jointly announced. They have reviewed the assumptions of KLM (1984) but with the reverse simultaneous announcement hypothesis. The authors confirmed that unanticipated changes in earnings and dividends have a significant effect on firm value but with no corroborative effect around the simultaneous announcement.

In the same vein, Kabir (1997) tried to show that earnings have information content similar to that of dividends. The tests confirm the relationship between announcement and stock market reaction

and support the additional information content of dividends compared to earnings. Mikhail et al. (1999), examine market reaction to dividends change conditioned by earnings quality. They show that the market reacts poorly to announcement of dividend change when earnings quality is high. In other words, dividends are a signal of future prospects when earnings quality is poor. The authors define a good earnings quality when the latter provide investors with useful information on the amount and timing of the future prospects of cash flows. Fakuda (2000), tests the dividend-signaling hypothesis and its relationship with past or future change in earnings. Examining a sample of Japanese companies, the author observes that: (i) The companies that have announced an increase in dividends exhibit a decline in their future profits when these latter have changed before the announcement date, (ii) companies that have decreased or omitted dividend payment have achieved their future profit growth while they were in decline before announcing dividend change. Therefore, managers tend to increase the extent of dividend change when earnings change level is higher. Therefore, the authors conclude that the results do not support the dividend signaling theory and its relationship with future earnings changes.

Best and Best (2001) examined in their turn two hypotheses about the information content of dividend change: (i) The first is the importance of information reported by dividend change depends on the reality of earnings forecast before dividend announcement, (ii) the second hypothesis supposes that stock price reaction to dividend change relates to earnings forecast errors. The results indicate that an increase in dividend signals more information about firms' financial analysts perform accurate earnings forecasts. The results also show that an increase and a decrease in earnings provide market participants with information enabling them to distinguish firms by their achievements of their future income. The effects of differential information is found to be more robust than the effects of price, size, dividend yield and overinvestment.

Allen and Michealy (2001) assert that it is easy to show that dividends announcement provides information on current and future profits even in the absence of a signaling reason. Given that investment is fixed in advance, and that the market does not know the current level of earnings, dividends are in this case residuals. A distribution higher than the expected dividend assumes more important benefits and therefore causes an increase in the share price. Chen et al. (2002) examine the simultaneous effect of profits and dividends on a sample of 1232 announcements. The results show that dividends announcement is more important than information provided by earnings.

### 3. RESEARCH DESIGN

#### 3.1. Sample

The sample consists of 50 non-financial French companies publicly listed on the SBF 250 over the 2004-2009 period. The collected data consists of 250 observations of annual earnings and dividend announcements. Several restrictions are imposed on the initial sample: First, the two events have the same announcement date corresponding to the publication of the firm's annual report. Second, the main activity of the firm is industrial or commercial,

financial institutions were excluded from the sample because of their specific accounting, financial and regulatory regimes. The information was collected manually and directly from firms' annual reports published in the official bulletins of the AMF and the <http://www.daily-bourse.fr> and <http://fr.finance.yahoo.com> websites. Accounting data are annual whereas market data are daily.

#### 3.2. Variables

##### 3.2.1. The dependent variable: CAR

Many researchers used abnormal returns as a means of market reaction to earnings and dividend announcements. Kane et al. (1984) used abnormal returns calculated over a period of 10 days prior and 10 days after the announcement date. In our study, we use CAR over 3 days surrounding dividend and earnings announcements.

$$CAR_{it} = \sum_{t=T_{i-1}}^{T_{i+1}} AR_{it} \quad (1)$$

Where  $AR_{it}$  is the abnormal return on day  $t$  for firm  $i$ . We use market return on day  $t$  as measured by the SBF 250 share price index.

##### 3.2.2. The independent variables

###### 3.2.2.1. Earnings and dividend surprises

In order to measure the effect of earnings and dividends announcements on stock returns we use the standard approach as developed by Pettit (1972, 1976), and Kane et al. (1984) where the abnormal return is associated to dividends and earnings surprises measured by their unexpected level. In this case, we consider the same earnings and dividends announcement date, which is the date of the publication of the firm's annual report.

Unexpected dividend  $D^U$ : As explained by Aharony and Swary (1980), a model of dividend expectation based on scaled dividend (dividend of least period) that can successfully predict abnormal returns.

$$D_t^U = D_t - D_t^* \quad (2)$$

Where  $D_t^*$  denotes dividend expectation in period  $t$  as measured by the least dividend  $D_{t-1}$ . According to Lintner (1962), Fama and Babiak (1968), this model supposes dividend stability and managers' reluctance to modify the payout ratio unless they anticipate a change in the firm's future prospects.

Unexpected earnings  $E^U$

Kane et al. (1984) use Foster's specification (1977) to generate their earnings expectation model. In our empirical tests, we use a naïve hypothesis measured by the least period as a proxy for earnings expectation  $E^*$ . Then, unexpected earnings are as follows:

$$E_t^U = E_t - E_{t-1} \quad (3)$$

###### 3.2.2.2. Earnings and dividend interaction I ( $E^U$ , $D^U$ )

Kane et al (1984) consider Pettit's formulation as a non-parametric specification to capture the possibility of interaction between

dividends and earnings announcements. That means that only the signs of the surprises announcement are used as dummy variables to measure forecast errors. According to the authors, the interaction of dividend and earnings surprises takes the following forms: I(- +) is an interaction of a dummy variable that takes 1 if the earnings surprise is negative and dividend change is positive, and 0 otherwise. Accordingly, we define six interaction possibilities: I(- 0), I(- +), I(+ -), I(+ 0), I(+ +), I(- -).

$$I(- +) = \begin{cases} 1 & \text{if } E^U \text{ and } D^U \text{ are negative and positive, respectively.} \\ 0 & \text{otherwise} \end{cases} \quad (4)$$

We exclude the I(- -) variable in order to avoid collinearity of the six possible dummy variables with the intercept.

### 3.2.3. Sensitivity variables

In order to explain how interaction is affected by the firm’s financial characteristics, we add four variables that can measure the most important factors related to the information content of earnings and dividends announcements. We consider growth opportunity, ownership structure, information quality and overinvestment risk (Table 1).

According to Fazzari et al. (1988), we divide our sample to a priori criteria based on four criteria: (i) Growth opportunity: Firms with low growth opportunity and firms with high growth opportunity, (ii) Ownership Structure: The Sample is divided into three subsamples according to the level of ownership concentration: Low, medium and high, (iii) information quality: We use BIG four as a measurement of the audit quality, (iv) risk of overinvestment: We use management ownership to measure the level of the risk of overinvestment.

### 3.3. The Empirical Model to be Estimated

The empirical tests are conducted using the Kane et al (1984). Two regressions are then used: (i) The first one tests the information content of earning and dividend surprises, (ii) the second regression KLM (1984) add qualitative dummy variables to the first regression in order to test the interaction hypothesis between dividend and earnings surprises.

In the first step:

$$CAR_{it} = a_0 + a_1 D_{it}^U + a_2 E_{it}^U + \varepsilon_{it} \quad (5)$$

$$CAR_{it} = b_0 + b_1 D_{it}^U + b_2 E_{it}^U + b_3 I_{it}(-0) + b_4 I_{it}(-+) + b_5 I_{it}(+-) + b_6 I_{it}(+0) + b_7 I_{it}(++) + \theta_{it} \quad (6)$$

In order to the validate the robustness of the KLM approach, we consider supplementary tests in support the interactive hypothesis between dividend and earnings surprises. These tests are conducted of four financial constraints: Growth opportunity, ownership structure, information quality, and overinvestment risk. We use a priori classification of firms (Fazzari et al., 1988) in order to identify whether a firm financial constraints have the power to explain the interactive hypothesis between dividend and earnings.

## 4. THE RESULTS

In this section, we test the main prediction of KLM’s model. Then, we perform additional sensitivity analysis.

### 4.1. Test Results Following KLM’s Specifications

Table 2 presents the regression estimates according to Kane et al. (1984). Regression (1) excludes interaction terms while Regression (2) includes the qualitative dummy variables I(.) to take into account interaction effects.

Regression (1) shows that the abnormal stock return is significantly affected by earnings surprise  $E^U$  while dividends surprise  $D^U$  does not react to share price. The negative effects of earnings are not similar to those reported in the literature, in particular the results obtained by Kane et al. (1984) who find a positive effect. However, in our study, French investors react negatively to sudden changes in earnings when information asymmetry is important enough to be reflected in a share price response (Kim and Verrecchia, 1991). Atiase and Bamber (1994) and Bamber and Cheon (1995) add that earnings announcements can either communicate good news for some investors or news that is sufficiently bad for others.

The more pronounced abnormal return related to earnings surprise and lack of changes in stock return associated to dividend signals show that investors are more sensitive to unexpected change in earnings and prove no reaction to dividend surprise. This result is in part explained by earlier studies (Lintner 1956, Fama and

**Table 1: Sensitivity variables measurements**

Variables	Measures	Priori criteria	Predicted sign
Growth opportunity	Tobin’s Q	High growth for firms with Q>1 Low growth for firms with Q<1	(-) (+)
Ownership structure	Ownership of the five largest shareholders (MAJ)	Low concentration MAJ is <20% Medium concentration MAJ is between 20% and 50% High concentration MAJ is more than 50%	(+) (-) (-)
Audit quality	Financial statements audited by the big four (BIG4)	Low audit quality if financial statements are not audited by the big four High audit quality if financial statements are audited by the big four	(-) (+)
Overinvestment risk	Management ownership (MOW)	Sample with low risk of overinvestment if CEO’s stock ownership is positive Sample with high risk of overinvestment if CEO’s stock ownership is zero	(+) (-)

Babiarz 1968) about the lag of dividends to react to permanent and transitory earnings changes.

Regression (2) of Table 3 presents estimates about the interaction hypothesis between earnings and dividends announcements. The coefficients of both dividends and earnings surprise are significant with positive and negative effects on the abnormal stock return, respectively. The positive coefficient of dividend announcement is consistent with the information content of the dividend hypothesis, which motivates managers to employ it in reducing asymmetric information and signal a change in their view about future prospects of the firm. In this case, any positive (negative) unexpected change of dividend payout is interpreted by investors as an increase (decreasing) in future earnings.

Contrary to the strong positive relationship between earnings surprises and abnormal returns, our results show a reversed association between these two variables, which is consistent with the findings of Kothari et al. (2006) who explain this negative correlation by changes in discount rates, while Sadka and Sadka (2009) explain this relation by the negative relationship between expected returns and expected earnings growth. Moreover, Hirshleifer et al. (2009) argue that an inverse relationship between earnings surprise and stock returns is explained by the accruals components of earnings.

**Table 2: Regression results (dependent variable: CAR)**

$$CAR_{it} = b_0 + b_1 D_{it}^U + b_2 E_{it}^U + b_3 I_{it}(-0) + b_4 I_{it}(-+) + b_5 I_{it}(+-) + b_6 I_{it}(+0) + b_7 I_{it}(++) + \theta_{it}$$

Independent variables	Regression (1): KLM without interaction	Regression (2): KLM with interaction
Constant	0.007756 <sup>a</sup>	0.016626 <sup>a</sup>
Dividend surprise D <sup>U</sup>	-0.012520	0.030026 <sup>b</sup>
Earnings surprise E <sup>U</sup>	-0.00568 <sup>b</sup>	-0.00639 <sup>b</sup>
I(- 0)	-	-0.006680 <sup>a</sup>
I(- +)	-	-0.011219 <sup>a</sup>
I(+ -)	-	-0.003733 <sup>a</sup>
I(+ 0)	-	-0.006255 <sup>a</sup>
I(+ +)	-	-0.014475 <sup>a</sup>
F-statistics	9.867356 <sup>a</sup>	3.93646 <sup>a</sup>
R <sup>2</sup> adjusted	6.64%	7.65%
Total observations	249	249

<sup>a,b</sup>Indicate significance at the 1%, 5%, and 10% levels, respectively. CAR: Cumulative abnormal return

**Table 3: Regression results (dependent variable: CAR)**

Independent variables	Regression (3): Low growth opportunity	Regression (4): High growth opportunity
Constant	0.016565 <sup>a</sup>	0.004111
Dividend surprise D <sup>U</sup>	0.059282	0.039723 <sup>c</sup>
Earnings surprise E <sup>U</sup>	-0.000672 <sup>b</sup>	9.32E-05 <sup>c</sup>
I(- 0)	-0.002408	0.015035 <sup>b</sup>
I(- +)	-0.022410 <sup>a</sup>	0.002780
I(+ -)	-0.027098 <sup>a</sup>	0.010581 <sup>c</sup>
I(+ 0)	-0.009646 <sup>a</sup>	-0.007034
I(+ +)	-0.015983 <sup>a</sup>	-0.000368
F-statistics	1.870199 <sup>c</sup>	1.293416
R <sup>2</sup> adjusted	0.034790	0.024148
Total observations	170	80

<sup>a,b,c</sup>Indicate significance at the 1%, 5%, and 10% levels, respectively. CAR: Cumulative abnormal return

The coefficients of all the dummy variables are uniformly negative and significant above the 1% confidence level. These results are not compatible with previous findings (Kane et al. 1984). The significant coefficients support the corroboration hypothesis showing a negative interaction between earnings and dividends surprises. This evidence suggests that investors evaluate the two announcements as two offsetting effects in order to meet any unexpected change in the firm's financial policy.

## 4.2. Sensitivity Analysis

In this subsection, we conduct a sensitivity analysis of the interaction hypothesis considering the firm's financial constraints of growth opportunity, ownership structure, information quality, and overinvestment risk.

### 4.2.1. Growth opportunity

Regressions (3) and (4) (Table 3) relates to the sensitivity analysis of the dividends and earnings interaction with growth opportunity. The results show that the abnormal return is significantly and positively influenced by dividend surprise when firms dispose of high growth opportunities. This effect is not confirmed for firms with low growth opportunities. This result is inconsistent with most conclusions of earlier studies. According to Fama and French (2002), Baker et al. (2012), firms with better growth opportunities retain more funds in order to finance more projects and are more likely to pay lower dividends.

Earnings surprise is significant in both subsamples but with opposite signs. When firms have low growth opportunities, the stock market reacts negatively to any change in earnings while firms with high growth opportunities earnings surprise is a positive signal to stock markets. The test of the corroboration hypothesis between dividends and earnings shows that the coefficient on the dummy variables I(.) are uniformly negative and significant for firms with low growth opportunities and positive and significant only for firms with high growth opportunities. The result shows that the interaction between dividends and earnings surprise is more confirmed with firms with poor future investment projects.

### 4.2.2. Ownership structure

The results (Table 4) show that dividend and earnings surprises do not have the same effect on the abnormal stock price as a function of the different levels of ownership structure. Indeed, when capital is dispersed the stock price will decrease for any unexpected changes in earnings and dividends. The same effect is maintained for earnings surprise when capital is concentrated, while with dividend surprise we observe the opposite effect.

Contrary to growth opportunity, the moderate effect of ownership structure on the possible interaction between E<sup>U</sup> and D<sup>U</sup> is the same. Indeed, the coefficients on the dummy variables are uniformly negative and significant for a different level of ownership structure. This result shows that the interactive relationship between earnings surprise and dividends surprise hypothesis is confirmed independently of ownership structure.

**Table 4: Regression results (dependent variable: CAR)**

Independent variables	Regression (5):	Regression (6):	Regression (7):
	Low concentration	Medium concentration	Higher concentration
Constant	0.012215 <sup>a</sup>	0.021455 <sup>a</sup>	0.012622 <sup>a</sup>
Dividend surprise D <sup>U</sup>	-0.308507 <sup>a</sup>	0.325323 <sup>a</sup>	0.058158 <sup>a</sup>
Earnings surprise E <sup>U</sup>	-0.001440 <sup>a</sup>	-0.002800 <sup>a</sup>	-5.60E-05
I(- 0)	-0.011010	-0.019806 <sup>a</sup>	0.008561 <sup>a</sup>
I(- +)	-0.028858 <sup>a</sup>	-0.024114 <sup>a</sup>	0.012616 <sup>a</sup>
I(+ -)	-0.010679 <sup>a</sup>	-0.019423	0.006310 <sup>a</sup>
I(+ 0)	-0.020452 <sup>a</sup>	-0.013148 <sup>a</sup>	0.007070 <sup>b</sup>
I(+ +)	0.001175	-0.015568 <sup>a</sup>	-0.013005 <sup>a</sup>
F-statistics	1.579466	3.347811 <sup>a</sup>	3.674156 <sup>a</sup>
R <sup>2</sup> adjusted	0.084406	0.163635	0.132086
Total observations	45	85	120

<sup>a, b</sup> Indicate significance at the 1%, 5%, and 10% levels, respectively. CAR: Cumulative abnormal return

**Table 5: Regression results (dependent variable: CAR)**

Independent variables	Regression (8):	Regression (9): Higher
	Low audit quality	audit quality
Constant	0.021250 <sup>a</sup>	0.009686 <sup>a</sup>
Dividend surprise D <sup>U</sup>	0.036535	-0.063281 <sup>a</sup>
Earnings surprise E <sup>U</sup>	-8.02E-05	-0.001241 <sup>a</sup>
I(- 0)	-0.009630 <sup>c</sup>	0.003678
I(- +)	-0.002261	-0.003952 <sup>b</sup>
I(+ -)	-0.017843 <sup>b</sup>	-0.004546 <sup>b</sup>
I(+ 0)	-0.027126 <sup>a</sup>	0.007082 <sup>a</sup>
I(+ +)	-0.025506 <sup>a</sup>	-0.002474
F-statistics		
R <sup>2</sup> adjusted		
Total observations		

<sup>a, b, c</sup> Indicate significance at the 1%, 5%, and 10% levels, respectively. CAR: Cumulative abnormal return

**Table 6: Regression results (dependent variable: CAR)**

Independent variables	Regression (10): Low	Regression (11): Higher
	risk of overinvestment	risk of overinvestment
Constant	0.017275	0.008469
Dividend surprise D <sup>U</sup>	-0.027799	0.065662
Earnings surprise E <sup>U</sup>	-0.000776	-0.000505
I(- 0)	-0.005111	0.005269
I(- +)	-0.014883	-0.010257
I(+ -)	-0.014140	0.013779
I(+ 0)	-0.008857	0.004500
I(+ +)	-0.016017	-0.004898
F-statistics	2.043987 <sup>c</sup>	1.606076
R <sup>2</sup> adjusted	0.045587	0.045500
Total observations	154	90

<sup>a, b, c</sup> Indicate significance at the 1%, 5%, and 10% levels, respectively. CAR: Cumulative abnormal return

#### 4.2.3. Information quality

We obtain the same result (Table 5) when we examine the effect of information quality. Earnings and dividends surprises negatively correlate with the abnormal return when the firm's financial reporting is good disclosure quality. For the abnormal stock return's reaction to the interactive hypothesis between E<sup>U</sup> and D<sup>U</sup>, the tests show that the coefficients on the dummy variables are uniformly negative and significant for the different levels of information quality.

#### 4.2.4. Overinvestment risk

We consider a low level overinvestment risk when managers have no ownership in the firm's capital structure. The results (Table 6) for overinvestment risk are different for earnings and dividends surprises. Indeed, when equity agency costs are low, the abnormal return is negatively affected by E<sup>U</sup>, while the effect of D<sup>U</sup> is not significant. We obtain the opposite result for a high level of overinvestment risk; dividend surprise positively correlates with an unexpected change in stock return while earnings surprise is not significant. The interactive hypothesis is confirmed with the different levels of overinvestment risk having a negative effect on stock returns.

## 5. CONCLUSION

One of the main principles of corporate finance is that insiders use dividends and earnings changes to signal private information to investors. Empirical evidence bearing on the signaling hypothesis provides mixed explanations. It is well shown that an increase (decrease) in dividends reflects positive (negative) earnings announcement.

This study examined the interaction between earnings and dividends announcements. We first pointed out that our empirical results are similar to those obtained by earlier researchers. The negative effects of earnings are not similar to those reported in the literature, in particular the results obtained by Kane et al. (1984) who find a positive effect. Our results show a reversed association between these two variables, which is consistent with the findings of Kothari et al. (2006). We also find strong evidence that financial constraint like growth opportunity, ownership structure, information quality and overinvestment risk have significant impact in explaining the negative interactive association between dividend and earnings surprises.

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