FINANCIAL ANALYST COVERAGE AND RISK-ADJUSTED RETURNS

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ABSTRACT

This study examines the relationship between risk adjusted stock returns and analysts following. Jensen's Alpha was used to calculate risk adjusted stock returns. I analyze data on analysts following for sample firm from Institutional Broker Estimate System (I/B/E/S) Detail History tape. The data set covers the period from 1982 to 2012 and found that firm with better risk adjusted stock returns will attract more analysts to provide research reports for investors. The result implied that risk adjusted returns contained more firm's information for financial analysts. Firms with better information will attract more analysts to follow since the analyst will save more time and effort in gathering information for their own purpose.

Keywords: Risk-Adjusted Stock Returns, Jensen's Alpha, Financial Analysts, Analyst Following

INTRODUCTION

Previous studies had documented the relationship between firm and analysts have influence on financial analysts. As underlined by Michaely and Womack (1999), proximity between a firm and an analyst should improve the quality of information and improve the quality of research report produced by analysts. Financial analysts play their role as professional that provides services to help investors to understand relevant and accurate information.

Risk-adjusted returns can be interpreted how manager overcome risk factors and deliver positive returns for their firm. Risk-adjusted performance to individual securities can resolve improvement idea of whether the equity security is compensating adequately for the amount of risk it consumes.I assume that firms that firm with positive risk-adjusted stock returns have more information regarding managerial ability to manage firms and making profit for investors and revealed more characteristic about firm value than do other firms. Andreou, Ehrlich and Louca (2013) find that there is positive association between managerial ability and firm performance. Risk-adjusted performance measurement is a way of managerial to manage the efficient allocation for internal capital. Management will have a better way to help their selves to evaluate the risk-adjusted performance of their business units, traders or investment portfolios. Embrechts, Frey and McNeil (2005) has stated that internal capital is only allocated to deals which are profitable from a risk-adjusted performance point of view as equity is rare and expensive due to the minimum capital requirements stated in the Basel II framework

Do financial analysts use their experiences and expertise to examine useful information related to firm's characteristics or prefer to focus their efforts on firms with less complex information? Prior studies suggest that the value of analysts' activities in the market stems from two sources which is analysts' skill at interpreting public information and/or their ability to collect and process private information (Feldman, Livnat and Zhang, 2012).Literature has shown that analysts are not following firms at random and nor are they unbiased in their forecasts. Study by O'Brien and Bhushan (1990) find that analyst following increases with institutional ownership and industry growth. Pearson (1992) documents a positive relation between analyst following and beta, firm value, and the number of firms operating in an industry, and a negative relation between analyst following and the market model residual standard deviation.This findings implied that analysts willing to coverfirms with good prospects and characteristics because they tend to have higher valuations, greater trading volumes, more easily forecasted earnings, and a desire to share positive news.

This study has documented that firm with more positive risk adjusted stock returns attracts more financial analysts to follow the firm. I generated alpha following Jensen (1968) risk adjusted measurement, Fama and French three factors model (1992) and Carhart (1999) four factors model as risk adjusted returns measurement. Those three alphas incoporated into regression model that will measure the relationship between risks adjusted stock returns and number of analyst following. We also control for number of firm that followed by the analyst to distinguish the complexity effect that may occur because of analyst follows too much firms.

The remains of this study are organized as follows. Section 1 is introductions. Section 2 describes literature studies and hypothesis building and data. Section 3 is research design. Section 4 and 5 are empirical results and conclusion.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Risk-Adjusted Stock Returns

When two portfoliosgenerating the same return, naturally investors will question themselves whether this two portfolios are the same. Problem that may occur is how to determine which of the two a better investment is. Investors must consider whether the portfolio's return, less all expenses, is sufficient to compensate for the risk taken. Hence, there should be an evaluation to the portfolio performance measures in terms of risk and return together.

Jensen (1968) had presented ratio as an additional performance measurement to the CAPM analysis, which calculates the excess returns on a portfolio, stock or index across time. The Jensen's measurement is commonly used in studies measuring risk-adjusted performance on historical prices, assuming that investors already hold diversified portfolios. The major issue is the exposure to systematic risk and it shows the average excess return per unit of systematic risk (Grinblatt& Titman, 1991). A positive value shows that the indexes are producing a specific level of return for its level of risk. This ratio known as Jensen's alpha.

Related to risk-adjustment stock returns, Jensen's alpha can be used as variable to measure about firms and managerial ability. Gorman and Weigan (2007) stated that Jensen's alpha of asset *i* for the period measured represents the return of asset *i* more than return that expected, after asset's exposure to the risk factors. A positive value of alpha indicates that the asset or portfolio (and most importantly, the manager of the portfolio) performed abnormally well based upon the risk exposure to the various systematic factors.

Risk-adjustment measures how much of the portfolio's rate of return is referring to the manager's ability to distribute above-average returns, adjusted for market risk. The higher the ratio, the better the risk-adjusted returns. A portfolio with a consistently positive excess return will have a positive alpha, while a portfolio with a consistently negative excess return will have a negative alpha. Related to this information, financial analysts' could interpret this as valuable information for their forecasts.

To consider risk-adjustment measures of any two funds will influence to the knowledge about which fund that perform better according to this risk-adjusted measure. As one example, Jensen's alpha will allow analysts' to get a quick feel for a fund's risk-adjusted performance relative to the benchmark. A negative Jensen's alpha indicates underperformance and the performance heading the opposite way when the Jensen's alpha is positive. In theory an investment manager exhibits a positive Jensen's alpha if he or she has superior stock picking or market timing in excess of the benchmark, while a passive or index tracking fund would not generate any positive Jensen's alpha.

Analyst Following

Many investors rely heavily on analyst research and prior evidence suggests that firm managers place a high value on receiving analyst coverage (Cliff and Denis, 2004).The importance role of analyst research as one base information to investors lead academics to determine factors of analyst coverage. Related to size of the firm, as a factor, prior researchers have observed that small cap firm managers generally have difficulty in attracting analyst

coverage (Bhushan, 1989;Bradley, et al., 2003)and the problem became even more severe for small firms during the period of brokerage firm retrenchment (Craig, 2003; Leone, 2004).

Meanwhile, firms usually put themself on strategy to keep an information advantage over rivals especially in the absence of third-party informations provider, in reason of competition. Analyst playing their role as third-party information provider when they follow firms in the industry and gain informations that they need to made forecast decision. When following the company, analysts must be sure that the information obtained should have a fairly low probability in error forecast estimation. A disclosure policy by the company has the potential to decrease the independent information that analysts got from following the firms since analysts might just follow the guidance that he received. However, the disclosure also explained about accuracy of analyst forecast and, as such, helps attract analyst following.

Arya and Mittendorf (2007) had predicted that whether an industry is characterized by high or low information transparency is influenced both by the intensity of competition and by the nature of analyst following even though that in their setting analysts do not care about the prospects of a firm, only the precision of information that they gathered. Regarding the high or low transparency of information will related to the analyst following and how they expanded their knowledge about the firm and the information.

Meanwhile, Frankel, Kothari & Weber (2006) stated that regulators and other market participants view analysts' activities as increasing the information efficiency of security prices because of their expertise and knowledge in firm valuation.

Firms with more potential growth are more likely being following by analysts due to investor interest and the potential for future investment banking deals. Further, analysts tend to find there is difficulties to accurately make forecast earnings for firms with high growth, following to higher disagreement among analysts and less accurate forecasts. Lang et al. (2004) suggest that how governance is exercised, i.e., ownership-control structure, can serve to explain what catches financial analysts' attention. They document that firms exhibiting poor internal governance (e.g., when the family/management is the largest shareholder) are less likely to be followed by analysts. This relation is interpreted as a reluctance of analysts to follow firms with potential incentives to hide or misreport information. Furthermore, this relation was found to be much more acute in countries with weak investor protection environments. Zhang (2006) supports Fama and French's (1992, 1996, 1998) argument and presents a theoretical model of the value premium. In Zhang's model, value stocks are less flexible in scaling down capital in market downturns, and hence are riskier than growth firms. These studies also documented that analysts' tend to follow large and growth stocks. This kind of stocks attract more analysts since it have better exposure on information. Following this kind of firms also will less costly for analysts. From this perspective, we can see that risk premium is fundamental issue that really affects the firm performance. This also affected to analysts when they try to make their forecast. When firms' stock returns over-performance the market risk, it is likely implied that stocks should be followed by the analysts. As great performance of stock returns is positive news, it is also bring more information related to the stocks and also managerial ability, which is treated as specific information that could help analyst to improve their performance on produce better forecast.

Hypothesis

From literature studies above, risk-adjustment could be interpreted as positive information by analysts'. This information also inferred as specific information from the firms since it related with firm managerial ability to control risk premium and also explain how the company beat the benchmark. One measurement that brings the idea of positive news is come from Jensen's alpha, which brings some information that may affect the analyst performance. After making conclusion based on literature studies, I propose my hypothesis regarding the influence of risk-adjustment stocks returns to analyst performance as follow:

This hypothesis will test the influence of risk-adjusted stock returns on analyst coverage. Since positive Jensen's alpha can be recognized by analysts' as positive news, then analysts' should follow the firm that have positive alpha. As specific information of the firm,

positive alpha which implies that stocks "beat the market", intuitively risk-adjusted stocks return have influence to make analysts' decision in following firms.

Hypothesis :Better risk adjusted stock returns will increase analysts to follow the firm.

RESEARCH DESIGN

Define Alpha

Risk-adjusted is a concept that refines returns on an asset or investment in relation to the amount of risk that the asset or investment took on. Risk-adjusted returns are applied to individual securities and investment funds and portfolios. The risk-adjusted return can help investor to determine the highest possible return for the least possible risk.

To measure the risk-adjusted returns, there are three common methods that commonly used, which is the market model, Fama-French three factor model and Carhart four factor model. The market model uses statistical methods to predict the appropriate risk-adjusted return of an asset based on the concept that riskier assets should have higher expected returns than less risky assets. If an asset's return is even higher than the risk adjusted return, that asset is said to have "positive alpha" or "abnormal returns". Jensen (1968) developed the measurement when he investigated mutual funds and its risk-adjusted rate of return. The measurement has as many other models within the finance area its roots in the CAPM model. Despite the measurements age it is today frequently used when valuating actively managed funds or mutual funds. It is commonly known as "Jensen's Alpha". The Jensen's Alpha is an absolute measure of performance. It is given by the annualized return of the fund, deducted the yield of an investment without riskminus the return of the benchmark multiplied by the fund's beta during the same period.

$$\alpha_p = r_p - [r_f + \beta_p(r_m - r_f)] \quad \text{(i)}$$

Where r_p is expected total portfolio return, r_f is risk free rate, β_p is beta of the portfolio and r_m is expected market returns.

As it is an absolute measure, it does not reflect completely the risk of the fund. It is then generally easier for a more risky fund to exhibit a greater Jensen's Alpha than for a less risky fund. It should be then applied on homogenous class of assets. Moreover, the validity of this measure depends crucially on the hypothesis that the beta of the fund is stationary, i.e. that the manager of the fund does not adapt his/her portfolio's weight according to his/her expectation on the future market variations. The validity of this hypothesis has to be tested before focusing on the value of this indicator.

Fama and French (1992) designed a model following the basic capital assets pricing model (CAPM) which only used market risk as variable to measure the excess return and adding two more variables, market capitalization and value where can reflect the portfolio exposure of two classes asset. theirobservation that two classes of stocks have tended to do better than the market as a whole. The intercept in this model is referred to as the "three-factor alpha"

$$r_{it} - r_{ft} = \alpha + \beta_1(r_{mt} - r_{ft}) + \beta_2 SMB + \beta_3 HML + \epsilon_{it} \quad \text{(ii)}$$

Where $(r_{mt} - r_{ft})$ is market factor return, *SMB* is small firm minus big firm (size factor return), *HML* is book-to-market factor return. And *β1, β2, β3,* are market beta, size beta, book-to-market beta.

Carhartfour-factor model is an extension of the Fama-French three-factor model including a momentum factor, also known in the industry as the MOM factor (monthly momentum).Momentum in a stock is described as the tendency for the stock price to continue rising if it is going up and to continue declining if it is going down. The MOM can be calculated by subtracting the equal weighted average of the highest performing firms from the equal weighed average of the lowest performing firms, lagged one month (Carhart, 1997). A

stock is showing momentum if its prior 12-month average of returns is positive. Similar to the three factor model, momentum factor is defined by self-financing portfolio of (long positive momentum)+(short negative momentum). The intercept in this model is referred to as the "four-factor alpha".

The approach of risk-adjusted in this research is to calculate the intercept (alpha) from the four-factor alpha. As performance attribution model, the four-factor model captures the risk and return characteristics of four elementary equity investment strategies, which is market sensitivity, small versus large market capitalization stocks, Investing in value versus growth stocks, Investing in momentum versus contrarian stocks, and represent as:

$$r_{it} - r_{ft} = \alpha + \beta_1 (r_{mt} - r_{ft}) + \beta_2 SMB + \beta_3 HML + \beta_4 UMD + \epsilon_{it} \quad \text{(iii)}$$

where, $R - R_f$ is firm excess return, $R_m - R_f$ is market factor return , *SMB* is small firm minus big firm (size factor return), *HML* is book-to-market factor return and *UMD* is momentum factor return. And *β1, β2, β3, β4* are market beta, size beta, book-to-market beta and momentum beta, respectively. Meanwhile, α isrisk-adjusted return, It is the return after controlling for general market movements and other risk factor exposures. It is also measure the ability of manager to generate return by stock selection beyond the reward for taking risk.

Measuring Alpha Influences on Analyst Following

After I calculate α (alpha) included to the models to measure the influence of α on analyst following, respectively:

$$NAFL_{it} = \alpha + \beta_1 ALPHA_{t-1} + \beta_2 LOGSIZE_{jt} + \beta_3 ROA_{jt-1} + \beta_4 STDV_{jt-1} + \beta_5 NUMB_{jt} + \beta_6 INST_{jt} + \beta_7 LOGVOL_{jt} + \varepsilon_{ijt} \quad \text{(iv)}$$

Where $NAFL_{it}$is number of analysts' that follow firm *j* on time t.$LOGSIZE_{jt}$ is logarithmic form of firm size,ROA_{jt-1} is Return on Asset in previous year.$STDV_{jt-t}$ is standard deviation of firm monthly stock returns from the prior year as a measure of information uncertainty. $NUMB_{jt}$is number of firm that being followed by analyst*i* on time *t*. $INST_{jt}$is share of institutional holding of firm *i* on time *t*. $LOGVOL_{jt}$ islogarithmic form of trading volume.

The data for this study were obtained from three databases that combined together. I use the Institutional Broker Estimate System (I/B/E/S) Detail History tape. The data set covers the period from 1982 to 2012 and contains over 6 million forecasts for the annual earnings of more than 10,000 companies made by over 8,000 analysts. Analyst codes are used to identify analysts on the academic tape. These codes remain with an analyst as he moves from broker to broker. Some entries to the data set are forecasts supplied by individual analysts and others are supplied by teams of analysts. The analyst codes on the usual academic tapes do not distinguish between individuals and teams, and this makes it impossible to identify teams of analysts. The I/B/E/S Actuals file which contains the company ticker, a measure indicator, a periodicity indicator, the fiscal period end date and the actual value used to adjust all forecasts and reported earnings are stated on the same basis. I Obtain the ROA and volume of trading for each firm from COMPUSTAT that required for this study and the stock return data from the Center for Research in Security Prices (CRSP) database. Table 1 reports sample statistics.

Table 1

Dataset summary statistics

Panel A. Initial sample of annual earning forecasts from I/B/E/S

Year	Analys	Forecast	Broker	Firm	Year	Analys	Forecast	Broker	Firm
1982	35	44	23	21	1998	5,297	205,276	375	5,962
1983	2,145	34,486	101	1,132	1999	5,643	205,975	385	5,668
1984	2,486	67,155	124	1,445	2000	5,849	197,153	379	5,267
1985	2,567	82,761	142	1,634	2001	5,825	199,449	361	4,625
1986	2,579	89,200	149	1,920	2002	5,878	207,372	349	4,414

1987	2,717	101,995	167	2,324	2003	5,874	213,352	395	4,342
1988	2,718	112,083	188	2,650	2004	5,750	228,954	448	4,564
1989	3,047	124,216	194	3,371	2005	5,746	260,899	451	4,769
1990	3,226	135,075	205	3,617	2006	5,843	287,229	452	4,884
1991	2,972	143,499	203	3,736	2007	6,006	310,431	418	4,866
1992	2,700	147,037	221	3,989	2008	6,025	345,998	416	4,629
1993	2,914	159,423	244	4,373	2009	6,135	371,062	452	4,322
1994	3,290	170,365	238	4,884	2010	6,260	390,964	458	4,180
1995	3,680	178,714	259	5,286	2011	6,163	401,857	457	4,005
1996	4,256	191,950	287	6,006	2012	6,205	434,776	459	3,981
1997	4,887	195,483	334	6,137	2013	1,818	35,466	224	314

Panel B. sample after combining I/B/E/S, CRSP, Compustat

Year	Analys	Forecast	Broker	Firm	Year	Analys	Forecast	Broker	Firm
1982	14	17	13	3	1998	4,587	128,313	346	2193
1983	1,910	25,628	100	511	1999	4,696	128,523	344	1974
1984	2,170	47,819	120	619	2000	4,745	120,990	313	1838
1985	2,230	58,867	135	776	2001	4,457	96,433	299	1342
1986	2,248	61,136	140	797	2002	4,817	135,553	293	1953
1987	2,346	68,348	156	840	2003	4,910	144,104	357	2024
1988	2,234	74,959	171	964	2004	4,800	157,339	408	2138
1989	2,586	77,508	184	1106	2005	4,928	178,528	414	2326
1990	2,701	84,549	193	1186	2006	4,928	195,986	390	2422
1991	2,426	89,883	193	1207	2007	5,066	215,926	375	2484
1992	2,188	92,969	210	1338	2008	5,096	244,738	375	2482
1993	2,459	101,663	222	1549	2009	5,160	262,343	404	2342
1994	2,842	104,993	227	1688	2010	5,343	282,778	412	2384
1995	3,128	108,767	239	1831	2011	5,376	295,790	409	2382
1996	3,556	115,609	260	1980	2012	5,437	324,657	398	2410
1997	4,145	119,338	307	2201					

Note: This table combined three databases I/B/E/S, CRSP and COMPUSTAT during sample period 1982 – 2013. *No. Analysts* represents the number of analysts in the sample. *No. Forecasts* represents the number of annual earnings forecasts in the sample. *No. Brokers* represents the number of brokers (analyst employers) in the sample. *No. Firms* represents the number of firms in the sample.

Table 1(Contd..)

Panel C. Final sample after controlling missing data

Year	Analys	Forecast	Broker	Firm	Year	Analys	Forecast	Broker	Firm
1983	938	3479	89	234	1998	2385	11117	226	1304
1984	1117	4502	99	270	1999	2528	12001	222	1218
1985	1169	4686	108	338	2000	2756	14419	202	1141
1986	1312	6053	107	377	2001	2267	10402	179	842

1987	1271	5616	114	401	2002	2430	15774	178	1257
1988	1233	5922	128	463	2003	2408	15203	223	1329
1989	1377	6865	143	523	2004	2529	17011	245	1426
1990	1463	6941	148	559	2005	2744	20203	256	1827
1991	1334	6410	157	582	2006	2785	21333	241	1918
1992	1226	5882	150	620	2007	2759	22447	225	1972
1993	1383	7089	168	724	2008	2728	24536	224	2022
1994	1526	6791	167	850	2009	2528	22318	240	1987
1995	1720	7663	170	997	2010	2803	25229	257	2016
1996	1882	8639	196	1073	2011	2888	25077	240	2026
1997	2205	10600	212	1280	2012	2768	20705	230	2109

Note: This table combined three databases I/B/E/S, CRSP and COMPUSTAT during sample period 1982 – 2013. *No. Analysts* represents the number of analysts in the sample. *No. Forecasts* represents the number of annual earnings forecasts in the sample. *No. Brokers* represents the number of brokers (analyst employers) in the sample. *No. Firms* represents the number of firms in the sample

RESULT

Table 2 shows correlation coefficients and distributions of the regression variables. On the table shows that numbers of analyst following have negative correlation with ALPHA 1 Factor, -0.00929 with $p<0.001$ and ALPHA 3 Factor -0.00124 with $p = 0.4479$. The correlation itself is less negative from ALPHA 1 Factor to ALPHA 3 Factor but it is not changed significantly. Meanwhile, the correlation between numbers of analyst following is positive with four factors alpha 0.00012, but this change also not significant. Correlation between ALPHA and forecast accuracy is all negative for each ALPHA. The changes for ALPHA 1 Factor, ALPHA 3 Factor and ALPHA 4 Factor, respectively, -0.0069, -0.00534, and -0.00713 with each variable significance at $p < 0.001$.

Using ALPHA that taken from equation (i) , (ii), and (iii) and control variables that taken from Bushan (1989) and Koopman (2011) which include the size of the firm and institutional share of the firm. Three regressions incorporated with ALPHA 1 Factor, ALPHA 3 Factor and ALPHA 4 Factor respectively for each regression model. I do the regression with equation (iv) to find out the result.

Table 2
Correlation coefficients of regression variables

	Alpha 1 Factor	**Alpha 3 Factor**	**Alpha 4 Factor**	**STDV**	**VOL**	**ROA**	**NUMB**	**LOGSIZE**	**NA**
Alpha 1 Factor	1								
Alpha 3 Factor	0.94139***	1							
Alpha 4 Factor	0.92492***	0.9787***	1						
STDV	0.02924***	0.03393***	0.03189***	1					
VOL	0.02929***	0.02337***	0.00795***	0.12195***	1				
ROA	0.03091***	0.02879***	0.02872***	-0.11528***	-0.03211***	1			
NUMB	0.00255	0.00107	-0.00327**	-0.05449***	0.02683***	0.00185	1		
LOGSIZE	-0.04376***	-0.03952***	-0.04561***	-0.33749***	0.14109***	0.04873***	0.05148***	1	

NAFL	-0.00929***	-0.00124	0.00012	-0.12539***	-0.11298***	0.03876***	-0.02882***	0.52268***	
INST	0.07584***	0.06861***	0.06235***	-0.03724***	0.34587***	0.02342***	0.0477***	0.09247***	0.09

Note : This table shows the Pearson's Correlation Coefficients for the regression variables.
***, **, * are coefficient significantly different from zero at 1%, 5% and 10% respectively

Table 3 presents the result of the regression of ALPHA on analyst following. The regression results shown that, ALPHA 1 Factor have positive and significant regression coefficient 89.6396. The regression coefficients even showed more positive and significant on the second and third regression. The coefficient regression of ALPHA 3 Factor and ALPHA 4 Factor are 128.2595 and 148.4661. This result explains that risk-adjusted stock returns have positive influence as analysts make decision to follow a firm and could be explained that for firm with better risk adjusted return will attract more analyst to follow the firm. Meanwhile, the other control variables also shown significant and the sign are consistent as I expected. Following finding by Bushan (1989) that firm size will have positiverelation with analyst following, the result on table 3 shown positive and significant for firm size with coefficient regression 4.4806 in interactions with one factor alpha. The results also increase significantly on the other two regression which shown 4.4813 in regression with three factor alpha, and 4.4824 with four factor alpha. This implies that positive risk-adjusted stock returns from a big size company will attract more analysts to follow the firm rather than small size company. Regression results that have different sign as expected but statistically significant are firm trading volume (LOGVOL). The result show that trading volume have negative relation with number of analyst following with coefficient regression -3.2240 in interaction ALPHA 1 Factor. But the result is shown become less negative in interaction with ALPHA 3 Factor and ALPHA 4 Factor where the coefficient regression are -3.2232 and -3.2202 respectively. This result may imply that the interaction between risk-adjusted stock returns for high trading volume firms still can be considered attractive to analyst to follow the firm.

Table 3
Result of Regressing Risk adjusted stock returns on Analyst Following

Variable	**Predicted Sign**	**Paramater**		
		[1]	**[2]**	**[3]**
ALPHA 1 Factor$_{jt-1}$	+	89.6396***		
		(11.40)		
ALPHA 3 Factor$_{jt-1}$	+		128.2595***	
			(11.42)	
ALPHA 4 Factor$_{jt-1}$	+			148.4661***
				(11.76)
LOGSIZE$_{jt}$	+	4.4806***	4.4813***	4.4824***
		(0.01)	(0.01)	(0.01)
ROA$_{jt-1}$	+	0.3392***	0.3353***	0.3338***
		(22.32)	(0.04)	(0.04)
STDV$_{jt-1}$	-	22.3184***	22.2752***	22.2723***
		(0.31)	(0.31)	(0.31)
NUMB$_{jt}$	-	-0.1278***	-0.1278***	-0.1276***
		(0.00)	(0.00)	(0.00)
INST$_{jt}$	+	7.1097***	7.0952***	7.0886***
		(0.08)	(0.08)	(0.08)

$LOGVOL_{jt}$	+	-3.2240***	-3.2232***	-3.2202***
		(0.02)	(0.02)	(0.02)
Intercept	+	57.3857***	57.3759***	57.2974***
		(0.40)	(0.40)	(0.40)
Adj. R^2		0.3343	0.3345	0.3345

Note: The table provides the summary results of separate regression for each $Alpha_{jt-1}$ during sample periods 1982 – 2012 using the model (model number). Each column presents the regressions coefficients for each variable, meanwhile standard error on below the coefficient in bracket. The dependent variable is $NAFL_{jt}$, presents number of analyst following firm *j* on time *t*. For definition of independent variables, see table (number). Adj. $R^2$is are adjusted R square over period. *** indicates statistical significance at the 1 percent two-tailed confidence level

Conclusion

Many previous studies presented firm-analyst relationship on the matter of analysts' performance. Michaely and Womack (1999), found that proximity between a firm and an analyst should improve the quality of information and the accuracy of forecasts or recommendations produced by analysts. Meanwhile Andreou, Ehrlich and Louca (2013) present that there is positive relations between managerial ability and firm performance in three main measures which are returns, resources and asymmetric information. Study by Feldman, Livnat and Zhang, (2012) suggest that the value of analysts' activities in the market stems from two sources which is analysts' skill at interpreting public information and/or their ability to collect and process private information (Feldman, Livnat and Zhang, 2012).

The study test the firm risk adjusted measurement upon the risk exposure to the various systematic factors that been documented by Jensen (1968), Fama and French (1992) and Carhart (1997) to find out the influences on analyst performance which in this study define as analyst following. My method is to measure firm risk adjusted return using typical approach by regressing the assets returns in excess of the free risk and use the intercept into a regression model that related to analyst following. Then, I integrate the intercept, the *alpha*, on analyst performances regression model to test the hypothesis. The result shows that firm with better risk adjusted returns attract more analysts to follow the firm. To consider risk-adjustment measures of any two funds will influence to the knowledge about which fund that perform better according to this risk-adjusted measure.The ability to measure risk adjusted returns combined with analyst's skill could help analysts to determine which sectors or global markets are currently outperforming. At the same time, it also can be applied to individual stocks.

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