行政院國家科學委員會專題研究計畫 成果報告

財務分析師盈餘預測修正頻率之研究
研究成果報告(精簡版)

計 畫 類 別 ：個別型
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執 行 單 位 ：東海大學財務金融學系

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公 開 資 訊 ：本計畫可公開查詢

中 華 民 國 100 年 10 月 31 日

中文摘要：　財務分析師扮演傳遞資訊予市場參與者之重要角色，為企業與投資人之間之資訊中介與
資訊提供者。但即使財務分析師持有具價值之資訊，也可能不立即對投資人或對市場傳
遞。因而，財務分析師公佈資訊或修改意見時機之探討，亦即財務分析師傳遞資訊之頻
率值得研究。此研究以 Holden and Stuerke (2008)之研究為基礎，先呈現其理論
模型以決定最適盈餘預測修正頻率，再進一步建立迴歸模型做實證分析。不同於 Holden
and Stuerke (2008)，本研究除了有更新之盈餘預測樣本之外，亦加入股價資訊與先期
盈餘預測變化與股票建議修正為解釋變數。實證結果發現，盈餘波動、股價波動、先前分析師之意見分歧度、與先前盈餘預測修正幅度對盈餘預測修正有正向影響，顯示財務分析師盈餘預測之修正與其頻率與這些資訊有顯著相關性。

英文摘要：

行政院國家科學委員會補助專題研究計畫 ■成果報告 □期中進度報告

（計畫名稱）財務分析師盈餘預測修正頻率之研究

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執行機構及系所：東海大學財金系

計畫主持人：張永和
共同主持人：無
計畫參與人員：王世驊、林倩瑜(兼任助理)

成果報告類型(依經費核定清單規定繳交)：■精簡報告　□完整報告

本計畫除繳交成果報告外，另須繳交以下出國心得報告：
□赴國外出差或研習心得報告
□赴大陸地區出差或研習心得報告
□出席國際學術會議心得報告
□國際合作研究計畫國外研究報告

處理方式：除列管計畫及下列情形者外，得立即公開查詢
□涉及專利或其他智慧財產權，□一年□二年後可公開查詢

中　華　民　國　100　年 10　月 31 日

1. Introduction

Financial analysts (or security analysts) play an essential role in distributing information to market participants. They perform as an information generator and intermediate between investors and firms. Their analyses and research reports are widely presumed as being informative and convincing in trend forecasting. As a result, the impacts of their opinions on the share prices and investors' investment decisions have been substantially documented[1].

Although financial analysts can convey information in a timely manner to the investors, it is still valuable to question whether certain information incorporated in various variables explains financial analysts' releases of opinions. We may conjecture that not all analysts are able to generate accurate earnings forecasts, gather valuable information, or publish the information in a timely manner because (i) information asymmetry exists even if financial analysts work in a relatively efficient industry in terms of information delivery, (ii) financial analysts' ability and experience diverges, (iii) financial analysts and brokerage houses are endowed with a wide range of resources for aggregating and analyzing information, and (iv) there is agency problem when analysts' reports are favorable to certain firms they prefer or have closer relations.

Even if analysts hold valuable information, they may not always publish it immediately. It is thus doubtful the timing of when financial analysts are willing to release or revise their opinions. How often and under what circumstances do they disseminate their opinions? Past studies have extensively addressed a number of issues regarding the market reaction to analysts' opinions, analysts' herding behavior, analysts' optimism or pessimism, under-reaction or over-reaction, the connection between accounting disclosures or corporate events and analysts' reactions, and so forth. In addition, the determinants that influence analysts' forecast accuracy or bias are commonly observed as associated with financial analysts' ability, age, gender, experience, professional designation, size or funded resources of brokerage houses, the magnitude of their coverage, and so on[2]. In other words, less is addressed on the determinants of the optimal frequency of analysts' publication of their opinions.

This research extends the research of Holden and Stuerke (2008) which establishes a theoretical model for determining the optimal frequency of forecast revisions and provides empirical tests. This proposal aims to further examine the sensitivity of the frequency of financial analysts' releases of earnings forecast revisions to a larger selection of variables. The theoretical model is first presented to show how analysts achieve the optimal frequency of earnings forecast revisions. The frequency of earnings forecast revisions is characterized by the number of earnings forecast revisions published between quarterly earnings announcements. Then, regression model for empirical tests is established to evaluate the degree to which equity information and prior peer analysts' opinions reveal the information that also affect the frequency. By this approach, this research provides insights to explain the role of analysts (information interpreter or information generator) from a variety of information sources. The subsequent sections show a brief literature review, research methodology, and the empirical results.

2. Literature review

A number of studies in accounting and finance literature have provided insights in the areas of financial analysts' performance, predictive ability of earnings forecasts or stock recommendations, and their preferences of coverage. Analysts' performance is characterized commonly by earnings forecast bias or error that is found affected by analysts' ability, experience, preference, coverage (analyzing firm or industry information, characterized by the

[1] See Barber and Loeffler (1993); Barber, Lehavy, McNichols, and Trueman (2001); Beneish (1991); Branson, Guffey, and Pagach (1997); Davies and Canes (1978); Desai and Jain (1995); Elton, Gruber, and Grossman (1986); Juergens (1999); Womack (1996); Schutte and Unlu (2009).

[2] See Stickel (1992); Mikhail, Walther, and Willis (1998); Clement (1999); Chang, Khanna, and Palepu (2000); Ang and Ma (2001); Loh and Mian (2003); Franco and Zhou (2009); Green, Jegadeesh, and Tang (2009).

number of analysts following a firm or industry), or brokerage size. Mikhail, Walther, and Willis (1998), for instance, question whether earnings forecast accuracy is relevant to analysts. They study the impact of industry's earnings volatility and regulatory on analysts' forecast accuracy and analysts' turnover from the database provided by Zacks containing quarterly forecasts from 1,607 analysts. They document that there is no significant link between absolute forecast accuracy and the probability of turnover. Overall, analysts who are relatively less accurate than their peers are more likely to experience turnover. In the low (high) earnings volatility industries, turnover is negatively (zero) associated with rank accuracy. Clement (1999) finds that forecast accuracy is positively associated with analysts' experience and employers size, and negatively associated with the number of firms and industries followed by the analysts.

Stickel (1992) analyzes financial analysts' reputation and performance by using the Institutional Investor All-American Research Team (IIAART) as the proxy of reputation and salary compensation. He documents that analysts in IIAART forecast EPS more accurately, generate EPS more often, and have a larger impact on stock prices. Chang, Khanna, and Palepu (2000) study global analyst activities and distinguish country-level determinants for analyst performance. They employed I/B/E/S Summary Files containing analyst activities in 47 countries. They develop country-level regressions and employ the number of analysts as response variable while independent variables include firm size, ratio of stock market/GDP, legal origin (English/Non-English), ratio of foreign investment/stock market capitalization, accounting rating index, and ownership structure (by state or family). Forecast error and forecast dispersion are applied in measuring analyst performance. They conclude that analyst performance can be captured by legal origin, accounting index, and return variability. More analysts follow large firms, in English origin and in higher developed capital markets. Moreover, analysts with group affiliates are more likely to be followed. Ownership structure provides no significant effect on analysts' performance.

Hong and Kubik (2003) study the connection between analysts' performance and their career outcomes. Earnings forecast bias is measured as the analysts' performance and career outcomes are represented by the quality of brokerage house. They report that analysts who generate more accurate earnings forecasts are more possibly hired by higher quality brokerage houses. Also documented is that analysts with more optimistic opinions are expected to have better job status. Jegadeesh el al (2004) investigate the information content of analyst stock recommendations and question analysts' predictive ability. They study the individual recommendations released from 1985 to 1998, provided by Zacks Investment Research. Firm's characteristics variables such as price momentum, trading volume, EP and BP ratios, and a set of growth indicators are applied. They provide empirical evidence that analysts' stock recommendations are able to predict for future stock returns: more (less) favorable recommendations are associated with higher (lower) stock returns over the next 6 to 12 months. In addition, analysts are found to cover the stocks with high price momentum, high trading volume, high EP, low BP, and high growth indicators.

Barber, Lehavy, and Trueman (1999) address whether financial analysts with top-quality records (stock recommendations) will perform consistently or not. They use Fama and French (1993) 3-factor model with price momentum added, abnormal returns, and log-odds ratio to evaluate the persistence. They provide no reliable evidence on analysts' performance persistence for buy or sell recommendations after controlling for market risk, size, book-to-market, and price momentum. Abnormal stock returns on buy or sell recommendations by top-ranked brokerage are not significantly different from that of bottom-ranked houses. They argue that financial analysts' recommendations still have investment value. Investors can not easily improve their returns simply by following those recommendations released by top-ranked brokers.

Another collection of researches focuses on analysts' under- or over-reaction to a group of corporate variables (see Abarbanell and Bernard (1992), DeBondt and Thaler (1990), Eastwood and Nutt (1999), and Lim (2001)). In general, it is found that financial analysts are too

optimistic; they overreact (underreact) to strong (poor) prior-year earnings. In other words, their forecasted earnings are usually higher than the actual reported earnings when prior earnings is strong. In addition to studying analysts' performance persistence, coverage, ability, or over-/under-reaction, a number of studies examine analysts' herding behavior that is found commonly originated in the burden for forecast accuracy. Graham (1999), for instance, develops and tests the Reputational Herding Model which analyzes the effect of analysts' reputation, ability, and signal correlation among analysts on the herding behavior. Herding behavior is observed when a financial analyst's ability is low (making less precise recommendations). When an analyst's initial reputation is high (for instance, an inclusion in The Hulbert Financial Digest's collection or Value Line), he/she is more likely to herd. In his study, Graham also provides evidence of herding behavior when private signals are highly correlated by defining the proxy as cross-sectional standard deviation of private forecasts of 3-month T-bill rate divided by the maximum standard deviation.

Cooper, Day, and Lewis (2001) develop a model of forecast timeliness to distinguish lead and follower analysts. The model of forecast timeliness regresses excess stock returns on the unanticipated element of earnings forecast revisions by lead and follower analysts. They suggest that the slope coefficients can thus be applied to identify lead and follower analysts. In other words, earnings forecasts released by lead (follower) analysts will have a larger (smaller) impact on the excess stock returns. Lead analysts are able to discharge more valuable or new information to investors than follower analysts. They provide evidence consistent with the model that stock price changes in response to lead analysts' earnings forecasts are larger than those generated by follower analysts.

Welch (2000) studies the association between analysts' stock recommendations and the subsequent analysts' activities. He builds a Markov probability transition matrix that leads to a likelihood function and evaluates the tendency of herding behavior when analysts' transition matrix is asymmetric. Consensus and the recent stock recommendation revisions are treated as the major herding targets. Revision period, analysts' optimism, analysts' dispersion of opinions, and brokerage houses' quality are also taken into consideration for herding parameter. He documents that analysts' recommendations affect the subsequent two analysts' recommendation revisions. Moreover, the impact of the most recent and precise recommendation revisions on stock returns is stronger.

Ang and Ma (2001) propose five behavior models for financial analysts facing a financial crisis. Among the five behavior models, the "panic and herding model" presents that analysts will not be optimistic surrounding a financial crisis and forecast bias will be large. Furthermore, analysts' opinions will not diverse and they will worsen the crisis. Under the assumption that investors follow analysts' pessimistic research reports, those pessimistic reports would appear to be accurately move with stock prices. They apply IB/E/S forecast data surrounding Asia financial crisis and analyze analysts' behavior. They document that financial analysts fail to provide accurate forecasts before crash period. Moreover, they also fail to adjust forecasts effectively after the crash period. With regard to using Asia financial crisis for the examination of financial analysts' behavior, Loh and Mian (2003) document the comparable results. In their research, Loh and Mian compare Singapore's financial analysts' forecasts over the pre- and post-crash period of Asia crisis. They report that forecast bias increases during the crash period because of higher degree of uncertainty.

These cited researches examine financial analysts' activities from a wide range of aspects. However, it appears a shortage of the analysis using both prior analysts' earnings forecasts and stock recommendations to explain current analysts' revision frequency. This research intends to bridge this gap and add contribution to the literature by investigating the sensitivity of forecast revision frequency under the circumstances reflecting the information from earnings, trading volume, stock price, prior earnings forecast revisions, and prior stock recommendation revisions. (The complete literature bibliography is included in the last part of the proposal.)

3. Methodology

(1) Theoretical Basis:

The theoretical setting for optimal frequency of financial analysts' forecast revisions follows the work of Holden and Stuerke (2008):

Suppose there are n_{FA} financial analysts and n_{IT} informed traders per analyst. The number of forecast revisions between two consecutive earnings announcements is n_{FR} with revision dates $d_1, d_2, \ldots, d_N$. Define the nth vision internal as $\Delta D_{\mathrm{n}} \equiv (d_{\mathrm{n}} - d_{\mathrm{n-1}})$, and the cumulative variance over nth revision internal is $\sigma_e^2(d_n - d_{n-1}) = \sigma_e^2 \Delta D_n$. The earnings at period t is e_t and earning change is computed as $\Delta e_t = \mathrm{e}_t - e_{t-1}$, $\Delta e_t \sim N(0, \sigma_e^2)$. Assume one risky asset whose value at t is ψ_t and $\psi_t = \theta e_t$. Moreover, $\Delta\psi_t = \psi_t - \psi_{t-1} = \theta \Delta e_t$ and $\Delta\psi_t \sim N(0\ ,\ \theta^2\sigma_e^2)$.

The market-clearing price p is given as follows:

$$p = \alpha + \beta\phi$$

Where ϕ indicates net order flow, $\phi = Q_{IT} + (n_{FA}\mathrm{n}_{\mathrm{IT}} - 1)\overline{Q_{IT}} + Q_{LT}$

Q_{IT} : informed trader's trade quantity

$\overline{Q_{IT}}$: mean quantity traded by other informed traders

Q_{LT} : liquidity traders' trade quantity

The informed traders' profit maximization that derives their optimal trading quantity:

$$\max_{Q_{IT}} \ E[Q_{IT}(\psi - p) | \psi] = \max_{Q_{IT}} [Q_{IT}(\psi - \alpha - \beta(Q_{IT} + (n_{FA}n_{IT} - 1)\overline{Q_{IT}}]$$

$$\frac{\partial(\cdot)}{\partial Q_{IT}} = \psi - \alpha - 2\beta Q_{IT} * -\beta(n_{FA}\mathrm{n}_{\mathrm{IT}} - 1)\overline{Q_{IT}} = 0$$

$$Q_{IT}* = \frac{\psi - \alpha}{\beta(n_{FA}\mathrm{n}_{\mathrm{IT}} + 1)} \equiv \delta(\psi - \alpha)$$

$$\delta = \frac{1}{\beta(n_{FA}\mathrm{n}_{\mathrm{IT}} + 1)}$$

Thus the market-clearing price develops into the following equation:

$$p(\phi) = \mathrm{E}[\psi | \phi] = \mathrm{E}[\psi | n_{FA}\mathrm{n}_{\mathrm{IT}}\delta(\psi - \alpha) + Q_{LT}]$$

$\alpha = \psi_{\mathrm{p}}$, ψ_{p} the prior value of the security

$$\beta = \left(\frac{\sigma_\psi \sqrt{\mathrm{n}_{\mathrm{FA}}\mathrm{n}_{\mathrm{IT}}}}{\sigma_{Q_{LT}}(n_{FA}\mathrm{n}_{\mathrm{IT}} + 1)} \right) \sqrt{\Delta D_{\mathrm{n}}}$$

Furthermore, the expected profit of an informed trader over the nth revision period:

$$\frac{(1-w)k\sqrt{\Delta D_{\mathrm{n}}}}{\mathrm{n}_{\mathrm{FA}}\mathrm{n}_{\mathrm{IT}}}, \quad k = \frac{\sigma_e \theta \sigma_{Q_{LT}} \sqrt{\mathrm{n}_{\mathrm{FA}}\mathrm{n}_{\mathrm{IT}}}}{\mathrm{n}_{\mathrm{FA}}\mathrm{n}_{\mathrm{IT}} + 1}$$

Likewise, the expected profit for an analyst:

$$\frac{w\sum_{\mathrm{n}=1}^{\mathrm{N}} k\sqrt{\Delta D_{\mathrm{n}}}}{\mathrm{n}_{\mathrm{FA}}} - n_{FR}\mathrm{c}_{FR}$$

c_{FR} : cost of forecast revision

w : the portion of profits charged by analysts.
$1-w$: the portion of profits for informed traders

Lastly, the optimal frequency of forecast revisions can be derived as follows:

$$n_{FR}^{*}=\begin{cases}0 & c_{FR}>c_0\\ n\in 1,2,\ldots,T-1 & , \ c_{\mathrm{n}}>c_{FR}>c_{\mathrm{n}+1}\\ T & c_{\mathrm{T}-1}>c_{FR}\end{cases}$$

Where $c_{\mathrm{n}}=(\frac{wk}{\mathrm{n}_{\mathrm{FA}}})(\gamma_{\mathrm{n}+1}-\gamma_{\mathrm{n}})$ for $\mathrm{n}\geq 1$

$\gamma_{\mathrm{n}}=\mathrm{mod}(\mathrm{T},\mathrm{n}_{\mathrm{FR}})\sqrt{\Delta \mathrm{D}^{+}}+[\mathrm{N}-\mathrm{mod}(\mathrm{T},\mathrm{n}_{\mathrm{FR}})]\sqrt{\Delta \mathrm{D}^{-}}$

$\mathrm{mod}(\mathrm{T},\mathrm{n}_{\mathrm{FR}})$ indicates the number of upper limit of revision periods

$\mathrm{n}_{\mathrm{FR}}-\mathrm{mod}(\mathrm{T},\mathrm{n}_{\mathrm{FR}})$ shows the number of lower limit of revision periods

ΔD^{+} : upper limit of revision period = $\mathrm{Quotient}\left(\frac{\mathrm{T}}{\mathrm{n}_{\mathrm{FR}}}\right)+1$

ΔD^{-} : lower limit of revision period = $\mathrm{Quotient}\left(\frac{\mathrm{T}}{\mathrm{n}_{\mathrm{FR}}}\right)$

(2) The empirical tests

In their research, Holden and Stuerke (2008) employ the following relations to conduct their empirical tests for analyzing analysts' revision frequency:

> *Revision frequency = f(earnings volatility, earnings response coefficient, average trading volume, skewness of volume)*

In this research, we include additional variables that are also valuable in explaining the frequency of earnings forecast revisions. Those variables reflect information from both stock price movements (share returns and volatility) and analysts' prior opinions (magnitude of prior earnings forecast revisions, prior disagreement of earnings forecast revisions, and prior stock recommendation revisions). We employ the following relations with the selected variables for empirical tests:

> *Revision frequency = f(earnings volatility, earnings response coefficient, average trading volume, skewness of volume, stock returns, stock volatility, the magnitude of prior earnings forecast revisions, the disagreement of prior earnings forecast revisions, prior stock recommendation revisions)*

The regression model to examine the prior concept is established as follows:

$$F_R=a_0+a_1 LnERC+\alpha_2 Ln\phi_e+\alpha_3 LnV+\alpha_4 S_V+\alpha_5 CAR$$
$$+a_6\phi_r+a_7\Delta\theta+a_8\phi_\theta+a_9\Delta SR$$

Where $\mathrm{F_R}$ indicates the frequency of forecast revisions. ERC represents earnings response coefficient (β_1) estimated from the following model: $CAR_{i,t}=\beta_0+\beta_1(U_e/P_{i,t-2})+\zeta_{i,t}$, where $\mathrm{U_e}$ is unexpected earnings and $\mathrm{P_{i,t\text{-}2}}$ is the closing price two days prior to earnings announcement. Moreover, CAR (cumulative abnormal return) is computed as $CAR_j=\sum AR_j$ while abnormal return at time t, $AR_{j,t}=R_{j,t}-R_{m,t}$, is acquired by subtracting market return ($\mathrm{R_{m,t}}$) from share

return ($R_{j,t}$). Besides, ϕ_e stands for earnings volatility estimated from the residual (ξ_t) of the model, $NI_t = a + bNI_{t-1} + \xi_t$. The earnings volatility is estimated as $\sum_{i=1}^{T} \xi_t^2 / \sum_{i=1}^{T} |NI_t|$. Subsequently, V is the trading volume and S_V indicates its skewness. The stock volatility, ϕ_r, is computed over the period between two consecutive earnings announcement, and $\Delta\theta$ is the percentage change of consensus earnings forecast over the prior period. Prior disagreement among earnings forecasts denoted as ϕ_θ is computed as the standard deviation of analyst earnings forecasts. The information reflected in the prior stock recommendations (SR) is considered as well as another probable source of pressure on earnings forecast revisions. A stock recommendation is a security analyst's evaluation on stock quality with a widely used 5-scale rating system (1: Buy, 2: Buy/Hold, 3: Hold, 4: Hold/Sell, 5: Sell, defined by the First Call). I use the most recent stock recommendation revision to measure the information delivery that may provide motivation for the successive forecast revisions.

4. Preliminary empirical results

We collect analysts' earnings forecasts, earnings revisions, stock recommendations, and revision periods supplied by the First Call over the 2001-2008 period. Earnings information is compiled from Compustat and share price and volume information is obtained from CRSP. Due to time constrains and the huge size of data sets, we first test the theory by using the samples of 2008 and provide preliminary results. All these explanatory variables are projected to have the association ([+], [-], or [?] signs as follows) with the dependent variable:

> Revision frequency = f(earnings volatility[+], earnings response coefficient[+], average trading volume[?], skewness of volume[+], stock returns[?], stock volatility[+], the magnitude of prior earnings forecast revisions[+], the disagreement of prior earnings forecast revisions[+], prior stock recommendation revisions[+])

The preliminary results show that earnings volatility, stock volatility, the magnitude of prior earnings forecast revisions, and the disagreement of prior earnings forecast revisions have positive impact on analysts' revision frequency. However, the association between revision frequency and other explanatory variables cannot be determined under insignificant p-values. The evidence suggests that as the volatilities of earnings, equity prices, prior earnings forecast revisions are higher, security analysts are more likely to revise earnings forecasts. Moreover, the magnitude of prior earnings forecast revisions also demonstrates certain effects on analysts' earnings revisions. Although other variables do not show significant relation to the dependent variable, we suggest that it may due to the limit of using samples from the shorter time period. The larger sample sets will be continuously complied and employed to examine whether the theoretical model can be verified or not.

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國科會補助計畫衍生研發成果推廣資料表

日期:2011/10/31

國科會補助計畫	計畫名稱: 財務分析師盈餘預測修正頻率之研究
	計畫主持人: 張永和
	計畫編號: 99-2410-H-029-028- 學門領域: 財務

無研發成果推廣資料

99 年度專題研究計畫研究成果彙整表

計畫主持人：張永和	計畫編號：99-2410-H-029-028-
計畫名稱：財務分析師盈餘預測修正頻率之研究	

成果項目			量化			單位	備註（質化說明：如數個計畫共同成果、成果列為該期刊之封面故事...等）
			實際已達成數（被接受或已發表）	預期總達成數(含實際已達成數)	本計畫實際貢獻百分比		
國內	論文著作	期刊論文	0	0	0%	篇	
		研究報告/技術報告	1	1	100%		
		研討會論文	0	0	0%		
		專書	0	0	0%		
	專利	申請中件數	0	0	0%	件	
		已獲得件數	0	0	0%		
	技術移轉	件數	0	0	0%	件	
		權利金	0	0	0%	千元	
	參與計畫人力（本國籍）	碩士生	2	2	100%	人次	
		博士生	0	0	0%		
		博士後研究員	0	0	0%		
		專任助理	0	0	0%		
國外	論文著作	期刊論文	0	0	0%	篇	
		研究報告/技術報告	0	0	0%		
		研討會論文	0	0	0%		
		專書	0	0	0%	章/本	
	專利	申請中件數	0	0	0%	件	
		已獲得件數	0	0	0%		
	技術移轉	件數	0	0	0%	件	
		權利金	0	0	0%	千元	
	參與計畫人力（外國籍）	碩士生	0	0	0%	人次	
		博士生	0	0	0%		
		博士後研究員	0	0	0%		
		專任助理	0	0	0%		

其他成果 (無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。)	無

	成果項目	量化	名稱或內容性質簡述
科教處計畫加填項目	測驗工具(含質性與量性)	0	
	課程/模組	0	
	電腦及網路系統或工具	0	
	教材	0	
	舉辦之活動/競賽	0	
	研討會/工作坊	0	
	電子報、網站	0	
	計畫成果推廣之參與（閱聽）人數	0	

國科會補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

■達成目標

□未達成目標（請說明，以 100 字為限）

□實驗失敗

□因故實驗中斷

□其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文：□已發表 □未發表之文稿 ■撰寫中 □無

專利：□已獲得 □申請中 ■無

技轉：□已技轉 □洽談中 ■無

其他：(以 100 字為限)

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）(以 500 字為限)

財務分析師扮演傳遞資訊予市場參與者之重要角色，為企業與投資人之間之資訊中介與資訊提供者。但即使財務分析師持有具價值之資訊，也可能不立即對投資人或對市場傳遞。此研究初步實證結果發現，盈餘波動、股價波動、先前分析師之意見分歧度、與先前盈餘預測修正幅度對盈餘預測修正有正向影響，顯示財務分析師盈餘預測之修正與其頻率與這些資訊有顯著相關性。後續研究將以更完整與更長期數據驗證此一結果。