

行政院國家科學委員會專題研究計畫 成果報告

證券分析師行為與專利權關係之研究

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計畫主持人：金成隆

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On the association between analyst and patent

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一、中文摘要

本研究主要在探討非財務資訊—專利權，與證券分析師之間的關係。本研究提出下列議題：(1)專利權屬性對於分析師決策(盈餘預測與股票推薦)的影響，本文預期：a.專利權數量愈多或品質(引證)愈佳的公司，分析師愈會發布有利的盈餘預測與推薦；b.專利權原創程度(引證以往其他專利中，屬於不同專利權分類碼的比例)愈高，分析師愈會發布有利的盈餘預測與推薦。(2)專利權屬性對於分析師間的預測一致性，本文預期：a.專利權原創程度愈高的公司，分析師的一致性愈小；b.專利權技術複雜性愈高的公司，分析師的一致性愈小。

實證結果發現：(1)專利權數量的多寡並不會影響到分析師的預測與推薦；(2)分析師對於專利權品質愈好的公司，盈餘預測的成長愈大，且愈會推薦買這家公司的股票。(3)公司專利權原創性與複雜度愈高時，分析師預測的一致性就愈差。

關鍵詞：分析師、專利權、盈餘預測、股票推薦。

Abstract

This project will explore the association between *non-financial* information (especially patent) and the analysts' decisions, as compared to prior study which examines the association of financial information with analyst' decision. I address two primary questions: **(1)** the effect of properties of patent on analyst's earnings forecasts and stock recommendation. I expect that analysts are more likely to issue favorable forecasts with respect to future earnings and stock recommendation for firms with more patent granted and higher quality of patents, as proxy by numbers of citation record. I also hypothesize that the association between patent and the likelihood of issuing more favorable forecast and recommendation is more significant for firms investing in more original technologies, measured as percentage of citations made by firms' patents that belong to a broader set of technologies. **(2)** The effect of properties of patent on analyst's consensus. I expect that forecast accuracy decreases with the originality of patented inventions and diversity of firms' technology of patents portfolio.

I find that while patent quality, measured by the citation, originality, and generality, is positively associated with growth forecast and recommendation of analyst, while patent count has no association with analyst forecast and recommendation. As predicted, I also find that forecast accuracy and consensus decrease with the originality of patented inventions and diversity of firms' technology of patents portfolio.

Keywords: Analysts、 patent、 earnings forecasts、 stock recommendations

二、緣由與目的

創新能力已成為企業成功愈否的重要指標之一，而專利權的數量與品質正可以反映出公司的研發創新能力。分析師為資本市場的重要仲介者，其所提的分析師報告常會提供盈餘預測與股票推薦，對於投資者是相當有價值的資訊。

然而以往有關分析師的研究著重於分析師使用財務資訊的研究(Abarbanell and Bushee, 1997)，本文探則探討了財務分析師與未入帳無形資產這一項非財務報表資訊的關係，而無形資產則以具體的專利權為對象。原因是因為專利權是一項比較具體的無形資產，不論是質與量都可以客觀衡量。

另一方面，如專利權等無形資產愈多的公司，由於未來不確定性愈大，因而

個別分析師之間的一致性可能愈小。進一步，即使是相同數量的創新，如本研究的專利權，彼此之間由於未來的不確定性不同，也可能引發分析師不同的看法。例如屬於「原創性」的專利權，雖然下方失敗的風險較小，但上方風險(未來正面發展)卻相當大(e.g., Mansfield and Wanger, 1977)，因而個別分析師使用的私有訊息也隨之增加，而使彼此之間的一致性降低。

基於上述的原因，本計畫擬探討幾個問題：

H1a: 分析師對於擁有較多專利權的企業，愈會發出較有利的盈餘預測與成長。

H1b: 分析師對於擁有較多專利權的企業，愈會發出較有利的股票推薦。

H2a: 分析師對於擁有較佳(差)品質的專利權的企業，愈會發出較有利(不利)的盈餘預測與成長。

H2b: 分析師對於擁有較佳(差)品質的專利權的企業，愈會發出較有利(不利)的股票推薦。

H3a: 擁有愈多(少)「原創性」專利權的企業，分析師愈會(不會)發出有利的盈餘預測與成長。

H3b: 擁有愈多(少)「原創性」專利權的企業，分析師愈會(不會)發出有利的股票推薦。

H4a: 擁有愈多(少)「原創性」專利權的企業，分析師之間的一致性愈會小(大)。

H4b: 擁有愈多(少)「原創性」專利權的企業，分析師使用的私有訊息的權重愈大(大)(即整合所有分析師意見的利益也將較大(小))。

三、研究假設及樣本選取與資訊蒐集

本研究以美國資料為主體，樣本取自 1991 至 1999 年間美國 NYSE 及 NASDAQ 的企業。所需資料來自下列資料庫：

1. 樣本公司之分析師推薦資料，取自 First Call 資料庫的推薦資料。First Call 資料庫將分析師評薦等級分為 1, 2, 3, 4, 5, 0 等六類；5 代表「強力薦購」(Strong Buy)；4 代表「薦購」(Buy)；3 代表「薦續持有」(Hold)；2 代表「薦售」(Sell)；1 代表「強力薦售」(Strong Sell)；0 代表「無推薦」(No Recommendation)。
2. 分析師預測資料，包含分析師年盈餘預測、季盈餘預測，取自 I/B/E/S 資料庫。
3. 樣本公司之財務報表資料，取自 COMPUSTAT 資料庫。

4. 個股報酬及整體市場報酬之資料，取自 CRSP 資料庫。

4. 專利權資料取自 National Bureau of Economic Research (NBER)的專利權與引證資料庫，此一資料庫包括了美國專利與商標局(United States Patent and Trademark Office，簡稱 USPTO)授予的專利權資料。內容包括專利權的申請人、申請日期、核准日期、專利權類碼、引證資料等。本研究所使用的的資料，基本上都有，但需要自行整理、抄錄、與彙整。

四、實證研究結果與討論

根據實證研究結果發現：

- (1) 專利權數量的多寡並不會影響到分析師的預測；
- (2) 專利權數量的多寡並不會影響到分析師的推薦；
- (3) 分析師對於專利權品質愈好的公司，盈餘預測的成長愈大。
- (4) 分析師對於專利權品質愈好的公司，愈會推薦買這家公司的股票。
- (5)公司專利權原創性愈高時，分析師預測的一致性就愈差。
- (5)公司專利權複雜度愈高時，分析師預測的一致性就愈差。

五、計畫成果自評

(一)對研究方面：

分析師為目前相當熱門的議題，以往研究大多集中在分析師如何使用財務資料作預測與推薦。本研究則使用非財務資訊---專利權，作為探討分析師行為(盈餘預測與推薦)的研究。因而對於學術文獻具有貢獻。

此外，本文同時對於先進國家的專利權資料進行多項與深入的分析，對於無形資產的文獻具有貢獻，同時對於我國也有借鏡的參考價值。

(二)對投資者方面：

分析師主要在提供分析報告，包括盈餘預測與股票推薦，在資本市場上扮演了重要的資訊中介角色。對於分析師行為的分析與了解，當有助於資本市場的運作。

(三)面對證期會及財務會計準則委員會方面

專利權是一項未入帳的財務資訊，對於資本市場而言是相當重要的，因而除透過分析師的分析外，主管機關對於財務報表未揭露的專利權資訊，在揭露

政策上是否有另一替代的揭露方法?本研究具有一些政策的含意。

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