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THE ROLE OF THE SELL-SIDE ANALYST IN COMMUNICATING COMPANY-RELATED NON-PUBLIC INFORMATION TO THE MARKETS

Paul Ryan

University College Dublin

ABSTRACT

This paper explores the nature of information that drives company price activity even though it is not in the public domain. The services of the sell-side analyst are employed to provide rationalisations for such movements and to provide insight into the market's information assimilation and processing abilities. Analysts' company recommendations and related activity themselves are found to constitute 16 per cent of such movements, thus confirming their key role in the firm's information environment. In addition, it is found that a not insignificant proportion (34 per cent) of these "unexplained" movements is driven by factors unrelated to "hard" news. It is speculated that such factors may go unreported in the financial press due to their intangibility and fuzzy nature and that the professional sell-side analyst plays a significant role in interpreting and communicating such value-relevant flows to the market. Finally, the paper reports preliminary evidence of delays in the market's response to news releases in 23 per cent of cases. This suggests that two of the standard assumptions of the efficient markets hypothesis, that the diffusion of information takes place instantaneously among all investors and that they act on it as soon as it arrives, are not necessarily always valid.

INTRODUCTION

The relationship between capital market information flows and company price activity occupies a central position in the financial economics literature. Market prices are set as the resolution of differences in the valuation assessments of market participants. Investors make such assessments based on analysis of the existing

information set about a firm available in the marketplace. The market information set is rich and complex and consists of information provided by the firm itself and by many other parties.

An extensive literature has shown that many firm-specific events impact on the firm, leading to changes in market expectations and consequently firm valuations. Examples include a firm's formal accounting releases (Ball and Brown, 1968), directors' trades (Seyhun and Bradley, 1997), takeover bid activity (Jensen and Ruback, 1983), seasoned equity offerings (Jegadeesh, 2000), institutional trading activity (Chan and Lakonishok, 1995) and management earnings forecasts (Bamber and Cheon, 1998).

However, notwithstanding these findings, the literature shows that a significant proportion of company price activity is not explained by company news. Roll (1988) provides evidence that company news stories appear to have little effect on company share prices. More general analysis by Cutler, Poterba and Summers (1989) and Mitchell and Mulherin (1994) fails to find a link between major news items and movements in prices. Ryan and Taffler (2002), using UK data, report that, for those companies representing the largest 350 companies on the London Stock Exchange, 24 per cent of large market-adjusted price movements could not be traced to company-specific information apparently driving these movements. This appears to be particularly the case for companies in the range 101–350 in market capitalisation, where 32 per cent of their largest market-adjusted returns do not appear to be driven by "publicly available" information. The corresponding proportion for the top 100 capitalisation stocks is only nine per cent.

The question inevitably arises: *what is the nature of the unreported information driving company share price activity?* Are the characteristics of these news categories significantly different in nature to their "publicly available" counterparts? For example, Roll (1988) conjectures that psychological factors such as sentiment, or what he terms 'occasional frenzy unrelated to concrete information', may go unreported and may well be more important than hard news in driving price activity. Another argument advanced for the lack of contemporaneous association between price changes and company news is advanced by Merton (1987) and Barberis, Shleifer and Vishny (1998). Merton (1987) argues that the standard assumption of efficient markets – that the diffusion of every type of public information takes place instantaneously among investors, and investors act on it as soon

as it arrives – may be suspect, particularly in relation to "complex" information releases, and that the market may take time to assimilate, interpret and process information. Barberis et al. (1998) argue that there may be information assimilation delays attributable to investor sentiment. If information is inconsistent with investors' prior beliefs, they overestimate the random component of information and underestimate the permanent component. As time passes and as more information comes available, investors gradually alter their beliefs, implying that prices take longer to react due to investor resistance to new information.

The empirical resolution of these issues has hitherto gone unexplored in the literature. To investigate such issues requires access to a "knowledgeable" source of the nature of the unreported information driving company price activity and of the market's information assimilation and processing procedures. The paper argues that, given the key role ascribed to the sell-side analyst in the information environment literature, he/she will be in a unique position to shed light on such issues.

The study uses the services of the equity analysts of three leading City of London-based stockbroking houses to provide explanations for large price movements of 100 companies drawn predominantly from the upper reaches of the FTSE Mid 250 index[1], over the eight-week period ending 1 March 1996, that are not apparently driven by "publicly available" information. However, the study is by its very nature only a pilot, as the directors of research at the three participating houses, whilst willing to participate in the study, were not prepared, at least initially, to commit their analysts beyond early March, a period coinciding with the height of the annual results reporting season. Therefore, the results are only indicative and should be treated with caution.

The paper proceeds as follows. The next section develops the hypotheses. This is followed by a description of the methodology and data. Finally, the empirical results are presented and a summary of the findings and conclusions provided.

HYPOTHESES

Sell-side analysts occupy a privileged position in the equity markets. They process information from a variety of sources and communicate their views to the financial marketplace through their company investment recommendations and earnings forecast revisions. Such activities are valued by the market and trigger abnormal price activity (Abdel-Khalik and Ajinkya, 1982; Stickel, 1990, 1991, 1995; Womack, 1996).

The activities of the sell-side analyst constitute a major component of a firm's information environment. The degree of analyst neglect dominates firm size and other empirical anomalies such as low P/E and the January seasonality effect in explaining returns (Arbel, 1985). Arbel, Carvell and Strebel (1983) and Arbel (1985) report that investors demand compensation, in terms of increased return, for holding shares of firms that are not closely followed by the investment analyst community.

Given the prominence associated with the sell-side analyst in the literature, the paper argues that he/she has a high degree of market knowledge and will be in a unique position to explain a significant proportion of price movements not apparently based on information in the public domain. This may be particularly the case for FTSE Mid 250 companies where, based on their size, there are fewer incentives for the financial press to gather and report information (Grant, 1980; Thompson, Olsen and Dietrich, 1987). It is anticipated that "unreported"[2] sell-side analysts' investment recommendations and related activities themselves will constitute a significant proportion of "unexplained" price movements. Null hypothesis H_0 1 is formulated as follows:

H_0 1: Sell-side analysts' investment recommendations and related activities will not constitute a significant proportion of "unexplained" company price movements.

As no prior research explicitly investigates the type of information not in the "public domain" driving company price activity, we can only speculate as to its nature and characteristics. For example, is the information set significantly different from its "publicly available" counterpart such that it goes unreported? Several authors suggest that stock prices may be driven by factors other than fundamental

information such as fads and fashions, noise trading, momentum, overreaction and trading frenzy (Shiller, 1981; DeBondt and Thaler, 1985; Black, 1986; Roll, 1988; Jegadeesh and Titman, 1993). Such events may go underreported in the financial press due to their intangible nature and the difficulty in rationalising them.

H_0 2 is formulated as follows:

H_0 2: The characteristics of the information events not in the "public domain" driving company price activity do not differ in nature or type to their "publicly available" counterparts.

Alternatively, are there delays in the market's response to corporate news arising from the processing of complex news releases (Merton, 1987) or in the search for corroborative news prior to trading (Barberis et al., 1998)?

H_0 3: "Unexplained" company price movements are not materially driven by other than contemporaneously occurring news items.

METHODOLOGY AND DATA

The paper explores sell-side analysts' degree of market knowledge of that information not in the "public domain" which drives company share price activity. This section first describes the basis for selecting the sample stockbroking houses and companies, and the return-generating model for calculating companies' "major" market-adjusted price changes which are, *a priori*, expected to be associated with firm-specific news. Sources of "publicly available" information are then defined, together with the procedure for obtaining analysts' explanations for those company price changes that are apparently not driven by "publicly available" information.

Selection of Stockbroking Houses

Three stockbroking houses were approached, all of which agreed to participate in the study: SBC Warburg, James Capel and Credit Lyonnais Laing. These houses rank second, fourth and ninth respectively in the 1995 Extel Ranking of Investment Analysts Survey, and their analysts would therefore be expected to have a high degree of

market knowledge. The directors of research at the three stockbroking houses were willing to participate in the study, at least on a pilot basis.

The author met all the participating analysts and briefed them on the objectives of the study. In addition, their directors of research emphasised the benefits to the house thus ensuring, insofar as possible, the analysts' active collaboration and participation in the study.

Company Selection

The selection of sample companies focussed primarily on those companies in the FTSE Mid 250 in order to test the expectation that analyst activity will play an important role in communicating information to the market in respect of such companies where there are fewer incentives for the financial press to gather and disseminate company news. To be included in the sample, companies had to be followed by two of the three participating stockbroking houses so as to mitigate potential problems of *ex-post* rationalisation bias. The participating stockbroking houses agreed to provide the services of their analysts. Eighty-seven FTSE Mid 250 companies were each followed by two stockbroking houses and came from one of the 13 stock exchange sectors covered by the analysts. Thirteen companies drawn from the lower echelons of the FTSE 100 index were added to the sample to bring the total sample size to 100 companies. **Table 1** reports on the size characteristics of the 100 firms in the sample.

Table 1: Summary Size Statistics (n = 100)

	Market Capitalisation (£m)
Mean	1,280
Standard deviation	860
Maximum	3,830
Minimum	100
Median	1,000

Return Generating Model and Identification of Large Price Changes

To identify the largest company price changes the following models were run:

$$AR_{i,t} = R_{i,t} - ER_{i,t} \qquad (1)$$

where $AR_{i,t}$ = the abnormal return associated with company i on day t, $R_{i,t}$ = actual return for company i on day t, and $R_{i,t}$ = expected return for company i on day t.

The expected return generating model is as follows:

$$ER_{i,t} = \beta_i R_{m,t} \qquad (2)$$

where $R_{m,t}$ = return on the FT All Share Index on day *t*, and β_i = LBS[3] beta coefficient for company *i*.

This is the market model with no intercept term. No intercept term was calculated as previous research has shown that the intercept term is not statistically significant (Firth, 1975; Brown and Warner, 1980, 1985).

Returns are calculated using log prices, adjusted for dividends as follows:

$$\ln(P_t + D_t) - \ln(P_{t-1}) \qquad (3)$$

where ln = natural log, P_t = price in time period t, D_t = dividend in time period t, and t = time on a daily basis.

Firm *i* price changes are defined as "major" if they are in excess of two standard deviations above or below the average abnormal return. *A priori*, such price movements, given their size, are likely to be associated with firm-specific news releases and not attributable to noise. Approximately 12 such observations per company are expected each year.[4]

The market-adjusted daily price movements for the 100 companies were monitored over the eight-week period ending 1 March 1996. An eight-week period was chosen as the study is only a pilot project. In addition, because the company reporting season reaches its most intense

phase in early March, the directors of research were, as mentioned earlier, unwilling to commit their analysts beyond this period.

After the close of business on each Friday of the eight-week study, daily market-adjusted returns were calculated for each of the 100 companies. The returns generated were then compared to the mean returns for 1995 plus or minus two standard deviations. Returns above or below this number are classified as major price movements that, because of their size, should be associated with firm-specific news and not noise *per se*. **Table 2** provides a summary analysis of the distributional characteristics of the abnormal returns generated.

Table 2: Abnormal Daily Price Movements: Summary Statistics

	%
Mean (absolute)	3.5
Standard deviation	3.6
Maximum	8.0
Minimum	-9.2

Sources of Company-Specific Information Releases

It is crucial that the sources of company-specific information capture value relevant information releases. There are two key information sources available in the UK: the London Stock Exchange Regulatory News Service and the *Financial Times*.[5] The *Financial Times* is the UK equivalent of the *Wall Street Journal*, the primary source used in US research on the relationship between capital market information flows and company price activity (Morse, 1982; Thompson et al., 1987). Unfortunately, a real time database such as Reuter or Bloomberg is not generally available for academic purposes.

Procedure for Seeking Explanations for "Unexplained" Price Movements

If the reason for the "major" price movement could not be ascertained by reference to a news event reported in either the *Financial Times* or the Stock Exchange Regulatory News Service relating to the same day as the price change, the analysts were faxed for an explanation.

Specifically, the analysts were faxed on the Monday morning of the week following the week of the "unexplained" price changes. The personal assistants to the directors of research agreed to co-ordinate the collection of the completed forms, follow up the analysts for their responses and return these responses via fax on the Monday afternoon.

RESULTS

There are a total of 166 major market-adjusted daily share price movements for the 100 companies in the sample over the eight-week period of the study. Of these, only 48 (or 29 per cent) could be traced to publicly available information reported in the *Financial Times* and/or via the Stock Exchange Regulatory News Service. **Table 3** summarises these news events.

Table 3: Summary of Abnormal Price Movements Explained by Publicly Available Information

News Category	n	%
Merger/acquisition activity	16	33
Annual results and dividend declaration	12	25
Large share trades	8	17
Company announcements other than mergers	6	13
Company restructuring activity	2	4
Board changes	2	4
Joint venture announcement	1	2
MBO	1	2
Total	48	100

The remaining 118 major market-adjusted daily price movements (representing 71 per cent of the total) were dispatched to the analysts at the participating houses for explanation. Of the 103 replies received, 26 were from two analysts following the same stock in different houses. Thus analysts provided responses for 90 of the 118 price movements, a response rate of 76 per cent. **Table 4** provides a breakdown of analysts' explanations for these price movements.[6]

Table 4: Summary of the Explanations Received from Analysts for the Information Events Driving Major Share Price Movements

Explanation	Total	%
Trading volume	12	13
Takeover bid rumours	11	12
Company presentations to analysts/ institutions	8	9
Analysts' recommendations	6	7
Industry transfer	6	7
Industry/company sentiment	5	6
Volatile price	4	4
Rumours other than bid	4	4
Previous over/under reaction	4	4
Restructuring	3	3
Stock switching within a sector	3	3
Input price changes	3	3
Product information	3	3
New contracts	2	2
Profit taking	2	2
Profit warning	2	2
Market conditions abroad	2	2
Buying on cheapness	1	1
Speculation prior to results	1	1
Financing	1	1
No apparent reason	7	8
Total	90	100

Analysts provided plausible explanations for the "unexplained" price movements in all but 7 of the 90 cases (8 per cent). In the 13 cases where two independent analysts reported on the same stock price movement, they were consistent 10 out of 13 times (77 per cent) suggesting that analyst explanations are not necessarily idiosyncratic or speculative rationalisations.[7] Only 8 per cent of price movements are apparently driven by "private" information,[8] thus suggesting that such information may not play a major role in explaining price activity for the sample companies.

The null hypothesis, H_0 1, that analyst activity itself is not a major source of news to the market is refuted by the findings of this study. Sixteen per cent of these price movements are generated either directly by analysts' recommendations (7 per cent) or indirectly via company presentations to analysts/institutions (9 per cent), thus suggesting the important role the analyst plays in enriching the information environment of the sample companies.

H_0 2 is refuted by the finding that a substantial proportion of "unexplained" price changes for the sample companies are not driven by news items similar to those items reported in the financial press. Comparing **Table 3** with **Table 4**, we can observe that 34 per cent of the total "unexplained" price movements are driven by event categories that may be regarded as related to non-concrete sources that do not appear as event categories in **Table 3**. These categories are:

1. Industry/company sentiment (6 per cent)
2. Previous overreaction (4 per cent)
3. Profit taking (2 per cent)
4. Buying on cheapness (1 per cent)
5. Volatile price (4 per cent)
6. Speculation prior to results (1 per cent)
7. Rumours other than bids (4 per cent)
8. Takeover bid rumours (12 per cent).

Such items do not appear in the financial press as significant drivers of price activity for FTSE 100 and Mid 250 companies (Ryan and Taffler, 2002). The accompanying comment by the analysts in relation to categories (1) to (6) suggests that no incremental news is coming to the market. Rather investors are reappraising share values using some implicit share valuation model, together with a belief that prices have departed from "fundamental" values. Categories (1) to (6) are broadly consistent with the speculations of Shiller (1981), DeBondt and Thaler (1985), Black (1986), Roll (1988) and Jegadeesh and Titman (1993).

Categories (7) and (8) relate to market rumours. It is interesting to note that analysts stated that they rang their institutional clients to inform them of the reasons behind these price changes in the case of 60 per cent of the two market rumours categories, thus suggesting that such information may not have been available to the market from other sources. The corresponding percentage for all other categories was 16 per cent, suggestive of a role for the sell-side analyst in communicating rumours to the market.

We can only speculate as to why these news event categories are not reported in the financial press. Is it perhaps that, due to their intangibility, it is difficult for financial journalists to rationalise and explain? Consequently, is the analyst, with his/her specialised knowledge and analytical skills, in a stronger position to "explain" such information flows?

H_o3 is rejected, and the study reports some very preliminary direct evidence, according to the analysts, of information assimilation delays in at least 10 per cent of cases. For example, House of Fraser, a retailer, experienced, according to the analysts, three successive days of price changes in excess of 3 per cent triggered by takeover rumours/pressure for management changes following on from a poor January trading statement. Powell Duffryn, a diversified industrial, had a return of + 2.8 per cent on 17 January followed by + 3.6 per cent on 19 January triggered by a reappraisal of the company by investors following a presentation to analysts. In a further 13 per cent of cases indirect evidence of a delay in market response is shown by comparing the analyst's reason behind the price change to corroborative news available via the publicly available sources in the trading days immediately prior to the price change.

In further work it would be interesting to ask the analysts why such assimilation delays take place. Is it for instance due to the nature of the news? Is the information content complex to interpret requiring, therefore, a digestion period (Merton, 1987), or is it something to do with the information dissemination process itself? Alternatively, are the delays attributable to the search for confirmatory evidence prior to trading (Barberis et al., 1998)?

SUMMARY AND CONCLUSIONS

The results of the study provide preliminary evidence on the extent to which information not reported via the Stock Exchange Regulatory News Service or published in the *Financial Times* is driving major price movements for companies in the FTSE Mid 250 index. Only a third of major price movements could be traced to these two sources of "publicly-available" information. That analysts are able to provide explanations for over 90 per cent of the major daily price movements not related to these sources is not consistent with concerns that analysts "don't know". Consistency in terms of explanation, where more than

one analyst followed the same stock, is indicative of the absence of *ex-post* rationalisation bias, despite the small number of cases. The study finds that analysts' investment recommendations constitute a significant proportion of "unexplained" price changes, thus providing indicative evidence of their key role in the information environment of the sample companies.

A number of pervasive themes are shown to be associated with unexplained major share price movements, many of which can be categorised as non-concrete information events requiring more judgement and interpretation to analyse. In addition, the market may not impound all information immediately into the share price and, in certain circumstances, there may be delays in the market's response.

As this study is only a pilot project, the results are of a very preliminary nature and should be treated with caution. Any subsequent study would include the following potential improvements. First, the analyst would be asked to record the timing of the "disclosure" of the information to the market, if it differed from the date of the price movement. Analysts would be asked for their views on why certain sources of news go unreported. Is it, perhaps, due to the intangibility of the information, or to its restricted availability? Why do analysts think there are information-processing delays? The answers to these questions may provide insight into how "market experts", such as sell-side analysts, view the information gathering, processing and dissemination process.

Second, the number of stockbroking houses participating in any subsequent study would be increased to ensure that at least three analysts follow each of the companies. There are two reasons for this:

1. A difference of opinion between two analysts is difficult to resolve in the absence of a third expert who might be expected to corroborate one of the first two analysts.
2. Though in this study where two analysts replied they tended to corroborate each other, it is inevitable that, due to analysts' busy working schedules, active participation will not always be a priority. Thus the greater the number of analysts following each company, the greater the likelihood that at least two analysts may reply.

The results, so far, are encouraging and validate the methodology adopted. They suggest that a fuller study over a longer time period, with more extensive company coverage and a greater number of

participating analysts, could lead to more definitive conclusions. Such a further study would contribute to the debate on how and what information gets to the market and how such information is processed and assimilated. This has important implications for market efficiency because, as Ball (1994) points out, market efficiency is a pure exchange theory and is silent on how information is gathered and on the process by which the market becomes informed. It simply assumes that given the supply of information rational investors' actions will lead to market efficiency.

NOTES

[1] The FTSE Mid 250 index consists of the companies ranking 101–350 in market capitalisation on the London Stock Exchange.

[2] Such analyst activity will go under-reported in the financial press, at least initially, as any valuable information the analyst gathers is likely to be disseminated to the clients of the stockbroking house prior to its disclosure to the market as a whole. There is some such evidence from studies examining the price and trading volume impact of the secondary dissemination of analysts' stock recommendations in the financial press, which document price activity prior to "public" disclosure (e.g. Davies and Canes, 1978; Bauman, Datta, and Iskander-Datta, 1995).

[3] Betas are obtained from the London Business School (LBS) Risk Measurement Service (RMS).

[4] If returns are normally distributed, these residuals will lie in the 2½ per cent tails of the normal distribution. As there are approximately 250 trading days in the year, we will have approximately 12 observations per firm per year. Diagnostic tests confirm that the market model residuals generated can reasonably be characterised as being normally distributed and the residuals fall within acceptable limits for kurtosis (less than 3) and skewness (not exceeding 1.2).

[5] The London Stock Exchange Regulatory News Service is a listing of all the mandated news announcements by the London Stock Exchange. The *Financial Times* is one of the world's leading business newspapers providing essential and timely information for the analysis of business events and trends, both international and UK-based.

[6] Because of the very small sample size and time period covered, together with the experimental limitations associated with this pilot study, the following results should only be viewed as indicative and

treated with caution. Nonetheless, if replicated on a larger sample, with more stockbroking houses and a longer time frame, the insights provided would certainly shed light on the nature of that information not in the public domain which drives company share price activity, and on the role of the sell-side analyst in analysing, interpreting and disseminating such information.

[7] However, it is noteworthy that, in 86 per cent of cases, only one analyst responded. Unfortunately the time period of our study coincided with a significant number of companies reporting their annual results and, consequently, many analysts were absent from their desks briefing institutional clients and attending company presentations, leading to the small number of incidents of more than one analyst reporting on each price movement.

[8] We define "private" information as a factor driving company price activity that analysts are unable to provide an explanation for.

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