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Recommended Citation

Hoi, Chun-Keung; Lessard, Jeffrey; and Robin, Ashok, "CNBC's squawk box: rocket fuel for share prices?" (2001). *American Business Review*. Accessed from <https://repository.rit.edu/article/513>

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CNBC's Squawk Box: Rocket Fuel for Share Prices?

Chun-Keung Hoi, Jeffrey P. Lessard and Ashok Robin

INTRODUCTION

The late 1990's have seen the emergence of the individual investor. The most celebrated fact associated with this phenomenon may be the increasing use of online investing by individual investors. The rapid emergence of online brokerages, with their increasing market values relative to full service brokerages, is testament to this revolution. Coinciding with this revolution is an increased demand for investment information by individual investors. Both the financial information industry and the broadcasting industry have tried to meet this demand. Numerous Internet sites, such as Yahoo and WSRN, provide basic financial information. Other Internet sites, such as Vcall, provide live coverage of analyst conferences. Two recent Internet IPOs, Market Watch and The Street Dot Com, were structured to finance Internet sites that will provide financial news. Cable television has not been left behind with the surge in demand of financial information. Programs by CNN, MSNBC, CNBC and Bloomberg are capitalizing on the exploding demand for financial information.

The mostly widely watched financial channel on cable television is CNBC. Not only is this channel the most widely watched, it also offers the most hours of programming per day. In fact, on National Public Radio, Howard Kurtz, a popular political commentator, while promoting his recent book on the role of information in financial markets, referred to CNBC as the "1,000 pound gorilla of financial news." The

flagship program on CNBC is CNBC's Squawk Box, which airs from 7am to 10am EST weekday mornings. The response to the program proved so positive that Squawk Box was extended one hour during the weekdays and a special weekend edition was added to CNBC's programming. This program provides a mixture of financial news and analysis. One highlight of this program is the short 5-15 minute interview of CEOs, COOs or CFOs. On any given day, one might encounter one or two of these interviews. These interviews are quite lively and are often punctuated by blunt questions regarding the financial prospects for the firm.

An interesting question regards the motivation of managers in agreeing to participate in such interviews. There are many possibilities. First, it is possible that 'star' managers are participating in this public forum in order to enhance the value of their human capital in the managerial labor market. Second, managers may view such programs as an effective means to broadcast good news about the firm and to increase share price. Third, managers may use this forum to temper over-enthusiastic investors, thus reduce their liability for poor performance.

The first motivation, enhancing a manager's value in the labor market, should produce no effect on either share price or on trading volume.¹ The second and third motivations, disseminating information and/or tempering reactions of investors, may indicate higher trading volume and significant price reaction. Our paper seeks to assess the existence of the price and

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volume reactions to provide insight to whether the motivations stated are likely.

We recognize that both the share price effect and the volume effect of these programs could be insignificant. First, most of these interviews are both scheduled and publicized in advance. For the vast majority of cases the interviews are scheduled at least one day in advance and are posted on CNBC's web site the evening prior to the interview. Further, in most cases, the hosts of the program announce a day in advance the companies and executives that are to be interviewed. The interviews, thus, are predictable events. The interviews are predictable given CNBC's publicizing the event via the announcement of the interviewed executive, the firm under review and the topical areas that will be covered in the interview. Further, due to the brevity of the interviews, the interviews rarely represent occasions for the initial sharing of essential information; only six percent of interviews represent public dissemination of new information. The interviews are frequently follow-ups of earlier announcements; seventy-two per cent of interviews. Finally, the interviews present an opportunity for the executives to provide general information about their firm's markets, goods or services; sixty-eight percent of the interviews.

Second, it is possible that the marginal, small investor (the intended audience of the program) has an insignificant effect on stock prices. It may be argued that the number of individual investors viewing CNBC's Squawk Box is insignificant when compared to the total number of investors in the market place. Further, the financial power of individual investor may be argued insignificant compared to either the mutual fund industry or the professional, investment management industry. That is, the audience of this program may not represent 'smart money' but may represent a marginal, non-significant investor group that should have no appreciable impact upon either share price reaction or changes in normal trading volume.

Assuming material information is being presented for the first time, it is still an open question whether such information should lead to share price revision.² While casual empiricism indicates that such information does lead to share price revisions, it is not clear whether a carefully constructed empirical study would indicate the same. There is also another connected issue of whether the share price revision is positive or negative. An interesting feature of the US capital markets is the liability faced by corporate officials and the corresponding willingness of firms to disclose bad news relative to good news. This institutional feature would perhaps indicate that most of the news is negative in nature and hence would lead to a downward revision of share prices. However, in addition to legal issues, there are other motivations for

the dissemination of information. One relevant issue for growth firms is the need to tap equity and debt markets on a continuous basis. In this situation, firms may be anxious to disseminate good news so that they may obtain favorable terms on security issuance. Managers of firms with holdings of shares and stock options may also be inclined to voluntarily reveal good news.

We study a sample of 94 firms whose top corporate executives were interviewed during December 1998 to February 1999.³ We find both significant abnormal price reaction and significant abnormal trading volume coinciding with CNBC's Squawk Box interviews. The average price reaction on the day prior to and the day of the interview is about 5% per day. This is shown to be statistically significant using a variety of testing procedures. Corresponding to these price changes, we also find a significant increase in trading volume.

The above results contribute to the literature on public announcements including the literature on earnings⁴ and dividends.⁵ We also address an emerging phenomenon in securities markets, the advent on online traders and their demand for information.

THE DATA

We identified firms whose corporate executives appeared on Squawk Box during the period December 1998 to February 1999. We chose this period so as to garner a sample that is not unduly affected by the earnings season. We found 94 such firms. The reasons for the interviews include: just released earnings; 5%; mergers and acquisitions activity; 5%; new product announcement; 10%; response to a governance/leadership crisis; 12%; general corporate information; 68%.

It is interesting to note that the information as categorized did not represent new information from the standpoint of an initial dissemination of insider information to the public. In each case, prior announcement either that day or earlier in the week was provided. CNBC's Squawk Box provided a forum for additional outlets or refinement of the corporate position to be made public. For each of the 94 firms, we hand collected share price and volume information. Finally, we used COMPUSTAT to collect accounting information. Table 1 provides information on the sample by identifying firms to their two digit SIC codes.

We notice that the sample is biased toward technology firms. In particular there is a higher than average representation of Internet firms. For example, most of the firms belong to the SIC range 30-39; the 26 firms belonging to this SIC range include firms such as Applied Materials, Compaq Computers, Adaptec, Tellabs, Northern Telecom, Lucent Technologies and

TABLE 1
Distribution of Firms by Industry

Two Digit S.I.C. Code	Number of Firms
10 to 19	2
20 to 29	9
30 to 39	26
40 to 49	8
50 to 59	13
60 to 69	8
70 to 79	15
	81

Notes: Our overall sample contains 94 firms involved in CNBC Squawk Box interviews during December 1998 to February 1999. Of these firms, we were able to obtain S.I.C. codes from Compustat for only 81 firms.

Sepracor. Of these 26 firms, 11 belong to the 2-digit SIC of 36. The second largest SIC range is 70-79. Of the 15 firms belonging to this SIC range, all but one belong to the SIC of 73 which includes Internet firms such as MindSpring, Yahoo, Excite, At-Home, Network Solutions and Open Market.

This sample bias is entirely consistent with the CNBC making a rational selection of firms for these interviews. The audience is more than proportionately made up of online traders. The proclivity of such investors toward the high tech firms is well known. While trading volume in Internet firms skyrocketed during the last year, the business of e-brokers such as Schwab, Ameritrade and E-trade had corresponding increases. One notes that while the sample contained 94 firms only 81 firms are represented in Table 1 and 78 and 79 in Tables 2 and 3. The firms are missing from these Tables for good reason. The missing firms were privately held or were new startups and no prior period accounting information was available for review. While the firms were publicly available during the time frame of the study enabling evaluation of price and volume relationships, publicly available information as to asset size, SIC classification and rates of return were not publicly available.

In Table 2, we further describe the sample by highlighting the size of the firms and their prior performance. To describe size, we consider Total Assets and Sales. Panels A and B of Table 2 provide this information. In terms of Total Assets, the average asset value is \$9.6 million indicating that many of the firms are indeed small firms. In fact, 40 out of 94 firms have Total Assets of less than \$0.5 million. This, once again, is consistent with the predominance of Internet firms with low levels of Total Assets, at least in book value terms. The Sales are also on the light side, with the average Sales being \$4.9 million. 49 out of 94 firms have Sales of less than \$1 million. Again, this is indicative of the sample bias.

PERFORMANCE AND EVENT STUDY RESULTS

We first studied the prior year accounting

TABLE 2
Firm Size as Measured by Assets and Sales

Assets in 1000's	Number of Firms	Sales in 1000's	Number of Firms
0-20	7	0-10	6
20-50	8	10-50	11
50-200	18	50-200	15
200-500	7	200-500	9
500-1000	8	500-1000	8
1000-2000	11	1000-2000	12
2000-5000	7	2000-5000	7
5000-20000	7	5000-20000	3
20000-50000	4	20000-50000	7
>50000	2	>50000	1
	79		79

Notes: Our overall sample contains 94 firms involved in CNBC Squawk Box interviews during December 1998 to February 1999. Of these firms, we were able to obtain Asset and Sales information from Compustat for only 79 firms.

performance of this sample of firms. We looked at two metrics, ROA and ROE. Table 3 indicates these results. The average ROA is -5.76% with 25 of the firms having a negative ROA. On the surface, it appears as though we have a poor-performing sample here. However, we note that most of the firms with negative ROA are Internet firms. Examples include At-Home with -136%, Open Market with -71%, Excite with -41% and Yahoo with -16%. This also indicates the skewness in our data. The ROA ranges from a low of -136% (At-Home) to a high of 22% (Tellabs). A significant proportion of the observations, 35 firms, fall in the range 0-10%.

TABLE 3
Accounting Measures of Firm Performance

Return on Assets		Return on Equity	
> -100%	2	-300% to -200%	4
-100% to -50%	4	-200% to -100%	4
-50% to -20%	10	-100% to -50%	2
-20% to -5%	6	-50% to -20%	9
-5% to 0%	3	-20% to -5%	5
0% to +5%	21	-5% to 0%	6
+5% to +10%	14	0% to +5%	9
+10% to +15%	13	+5% to +10%	7
+15% to +20%	5	+10% to +15%	17
> 20%	1	+15% to +20%	6
		+15% to 20%	8
		> 20%	1
	79		78

Notes: Our overall sample contains 94 firms involved in CNBC Squawk Box interviews during December 1998 to February 1999. Of these firms, we were able to obtain Return on Assets information from COMPUSTAT for 79 firms and Return on Equity information from COMPUSTAT for 78 firms. The performance metrics are calculated during the year prior to the CNBC interview.

We find similar results for ROE. The data one again is skewed to the left with an average ROE of -12.5%. As with ROA, fewer than 50% (26) of the observations have a negative ROE. The range is of ROE is from -292% (Hollywood.Com, Inc.) to 242%

(Lam Research Corp.). Again, many of the Internet firms have negative ROE. As expected, the range for ROE is greater than the range for ROA.

Next, we conducted an event study to assess the stock price reaction to these interviews. We report the results in Table 4. The unadjusted firm returns are -5.91%, 4.99% and -0.89% respectively for days -1, 0 and 1 relative to the interview date. It is quite astonishing that the two-day return for [-1,0] exceeds 10%. Similar inferences are also to be gained by scrutinizing the market-adjusted returns. We use the returns on the Standard and Poor's 500 Index to control for market price movements. Thus, the difference between firm returns and market returns constitute the 'abnormal' returns that are attributable to the information being provided by the appearance of the manager on television. Table 4 indicates that the market adjusted abnormal returns are similar in magnitude to the raw returns. For example, the market-adjusted return of 5.86% for day -1 is little different from the raw return of 5.91%. This is principally because of the comparatively large size of the average firm return compared to the market return.

TABLE 4
Stock Price Reaction to CNBC interviews

Time	Firm returns	t	Market-Adjusted firm returns	t	Z
-1	5.91%	24.91	5.86%	13.13	9.5
0	4.99%	21.01	4.81%	10.77	14.43
+1	-0.89%	-3.74	-0.08%	-1.18	-1.41

Notes: Our overall sample contains 94 firms involved in CNBC Squawk Box interviews during December 1998 to February 1999. Market-adjusted firm returns are firm returns net of the percentage change in the Standard and Poor's 500 Index. The t-statistics reported (t) are constructed using standard errors from the period [-30, -10] relative to the day of the interview. The Z-statistics (Z) is constructed using standardized abnormal returns as in Dodd and Warner (1983).

We also find that the returns for days -1 and 0 are statistically significant. The t-statistics are 24.91 and 21.01 respectively. To construct this t-statistic, we divide the average [-1,0] abnormal returns using standard errors derived from the returns over the prior estimation period of [-30, -10]. In Table 4, we also report the market-adjusted returns and their corresponding t-statistics. The market-adjusted returns are very similar to the raw returns. Again, the t-statistics for days -1 and 0 are significant. Z-statistics are reported to indicate the significance of market-adjusted returns.

We calculated the Z-statistics using the Dodd and Warner (1983) standardized abnormal returns methodology. We implemented this approach by first calculating standardized abnormal returns (SAR_{jt}) as follows:

$$SAR_{jt} = (R_{jt} - R_{mt}) / \sigma(R_j - R_m),$$

where R_{jt} is stock returns for firm 'j' at time 't'; R_{mt} is market returns at time 't'; and $(R_j - R_m)$ is the standard deviation of the difference between firm returns and market returns calculated during the estimation period of [-30, -10]. The standardized abnormal returns are cumulated over time and averaged across the 'N' firms in the sample, and by using the equations shown in Dodd and Warner, the Z-statistics are derived.⁶ The specific equation used to calculate the Z-statistic for each of the days -1, 0 and +1 is given by:

$$Z = \frac{1}{\sqrt{N}} \sum_{j=1}^N SAR_{jt}$$

These Z-statistics are days -1 and 0 are 9.50 and 14.43 respectively and are also significant at normal probability levels. Thus, our results are robust to the testing methodology applied.

Event studies typically do not report announcement period abnormal returns of the magnitude reported here except in the case of mergers, acquisitions, and other corporate control transactions. For instance, prior empirical results show that the abnormal returns over the two-day period surrounding the announcement for target firms in successful mergers ranges from a high of 13.5% [Dodd (1980)] to low of 6.24% [Eckbo (1983)]. Similarly, average announcement period abnormal return for target firms in successful tender offers amounts to about 8% [Dodd and Ruback (1977)]. In contrast, the announcement period abnormal returns for regular dividend announcement range from 2.4% for dividend increase and to negative 1.9% for dividend reduction [Aharony and Swary (1980)]. While average abnormal return for dividend initiation announcements averaged about 4% and a negative 9% for announcements of dividend omissions [Healy and Palepu (1988)]. What is noteworthy is that our sample is not dominated by interviews regarding merger, acquisition or earnings announcements, but is, instead, general information oriented with generic comments being provided with respect to past earnings. Thus, we have corporate officials being interviewed when no particularly positive news about the firm is being disseminated.

We also tested whether our results are driven by a small subset of firms. First, we separated our sample into Internet firms (N=14) and non-Internet firms (N=80). We find that the overall results are unchanged. For example, the average day -1 return for Internet firms is 2.37%, while the corresponding return for non-Internet firms is 6.53%. Similarly, the day 0 returns for the two categories are 2.44% and 5.34% respectively. All of these returns are statistically significant. Thus, we have verified that Internet firms do not drive our results.

We also tested whether outliers determine our results. To calculate the days -1 and 0 returns, we eliminated the 5 highest and 5 lowest values. Again, we find that our results are significant.

Finally, we assessed the trading volume corresponding to the interviews. Table 5 reports these results. The average trading volume on the day of the announcement is 3,328,484 shares. This is significant with a t-statistic of 24.32. Similarly the volume for day -1 is 2,754,066 with a t-statistic of 20.12. Surprisingly, the volume remains high and significant on day +1 with a value of 1,994,159 shares and a t-statistic of 14.57. These volume figures are especially interesting considering the bias of the sample toward small firms.

TABLE 5
Trading Volume Reaction to CNBC interviews

Time	Firm trading volume	τ
-1	2,754,066	20.12
0	3,328,484	34.32
+1	1,994,159	14.57

Notes: Our overall sample contains 94 firms involved in CNBC Squawk Box interviews during December 1998 to February 1999. The t-statistic reported () are constructed using standard errors from the period [-30,-10] relative to the day of the interview.

CONCLUSIONS

The results presented in this paper are timely and interesting. A number of outlets for financial information programming have sprung up in television in recent years. But the impacts of these programs on either stock price or trading volume are largely unknown. While it is likely that programs such as Squawk Box cater to the individual investor, one would have anticipated that individual investors would be interested in a more diverse group of companies. The majority of companies featured in Squawk Box, however, are listed on NASDAQ, technology driven and small. The kind of bias in firm selection here is not limited to CNBC's Squawk Box and may be indicative of the rising importance of the NASDAQ.⁷

Returns generated by companies whose executives are interviewed in Squawk Box were demonstrated to possess greater return variance than those of non-participating firms. However, these firms are small, technology based and represent the hottest investment sectors of the economy. The justification to interview corporate executives from these sectors is perhaps to provide information thought to have been demanded by small and individual investors. This incentive may in turn motivate financial information programming such as CNBC to actively seek out high technology oriented firms to satisfy the consumer demand.

The consumer demand for information is

demonstrated by the large increase in trading volume of the firms highlighted by Squawk Box. A typical day's trading volume would average 1,326,842 shares. We noted that the trading volume for day -1, 0, +1 was 2,754,066, 3,328,484 and 1,994,159 shares respectively. The increase in the trading volume of 107.6%, 150.9% and 50.3% represent increases in trading volume neither seen nor reported on by other studies focusing upon merger, dividend, managerial change or financial rating change. Further, the statistically significant increase in the magnitude of trading volume forces one to reconsider whether the small, individual investor has a larger role in the pricing mechanism of corporate stock than previously believed.

The stock price reaction to the Squawk Box interviews leads one to pause. In fact, it is the most surprising finding in this present study. The 10.9% change in returns for day -1 to 0 is both statistically significant and surprising. It appears that both the information provided via the interview and the spotlight of being on financial information programming has an extremely positive impact upon stock price. The returns of 5.91% on the day prior to the televised interview, may suggest that the editors, reporters and producers of programming like Squawk Box provide a screening mechanism of corporate securities that is highly valued by the individual investor. It would seem that investors review and take note of the financial reporting programming announcements interviews and scheduling provided by Internet sites and by TV programming announcements. Since no confounding events were noted during the time frame covered during this study, which could act to skew the return or volume data, one is left to conclude that the screening mechanism provide significantly positive information to individual investor.

This study represents a preliminary analysis of the importance of financial information programming to the individual investor. The three-month time horizon of this project was of sufficient duration to determine whether statistically significant relationships exist between financial information programming and either price or trading volume relationships. It was determined that there is a positive relationship between being highlighted on one of these programs and increases to trading volume and return generation. A longer-term study is necessary to determine whether the timing of the study's data collection had any impact upon either volume or returns. It is plausible that the intense interest in technology issues at the time of the study had an impact on the results. A longer-term study would also allow a research design to test subsets based on firm and announcement characteristics. Finally, expanding the study to include alternative programming from the other

networks would provide insight as to whether the financial information programming is broad based or

program specific with respect to trading volume and return generation.

NOTES

- ¹ This may have an indirect effect on firm valuation. For instance, if a manager uses this forum to proclaim his competence, the markets may also revise the cashflow estimates for the firm on account of their new perception about the quality of management. We thank an anonymous referee for raising this implication.
- ² On July 8, 1999, Human Genome Sciences, Inc. (HGSI) announced that it had discovered a novel immune stimulant that may have significant medical use for the treatment and prevention of infectious diseases, and may also contribute to the treatment of immune deficiency disorders. The discovery may also lead to new approaches to the treatment of certain types of leukemia and lymphoma. CNBC's stocks editor Joe Kernan had an enthusiastic piece on this firm on that day. He did not have any new information, however. Prior to this piece the stock had already rocketed up from its open of \$40.5 to about \$45. Interestingly, during his piece, one could visibly see the stock go up in value by another 5 points!
- ³ While the sample is obtained from only three months, we note that the size of the sample is sufficiently large to provide statistically significant tests. Moreover, the sample size compares favorably with those in many mainstream finance research studies.
- ⁴ Examples of studies focussing on stock price reaction to earnings announcements include Foster (1977) and Hagerman, Zmijewski and Shah (1984). An example of a study focussing on abnormal trading volume is Bamber (1987).
- ⁵ Again, there have been many studies of the announcement effect of dividend changes. A recent example is Denis, Denis and Sarin (1994). Other examples include Watts (1973), Aharony and Swary (1980) and Brickley (1983).
- ⁶ In general, the equation for Z is as follows:

$$Z = \frac{1}{\sqrt{t''-t'+1}} \times \frac{1}{\sqrt{N}} \sum_{j=1}^N \sum_{t=t'}^{t''} SAR_{jt}$$

Here the standardized abnormal returns are summed over time and across firms and divided by the square roots of the number of days in the period over which abnormal returns are summed and the number of firms in the sample. The intuition for the above statistic is that each SAR_{jt} is approximately unit normal. Assuming independence, the variance of the summation of SAR_{jt} across firms and over days is simply the number of terms, which is $N(t''-t'+1)$. Thus, to construct the Z, we divide the summation of SAR_{jt} with the square root of the variance. In our case, however, we only report the Z for individual days and hence the summation is only done across firms.

- ⁷ The market capitalization of the NASDAQ at more than \$5 trillion is about half the capitalization of the NYSE. However it exceeds the capitalization of any other equity market in the world.

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