

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

UNITED STATES OF AMERICA
Before the
SECURITIES AND EXCHANGE COMMISSION

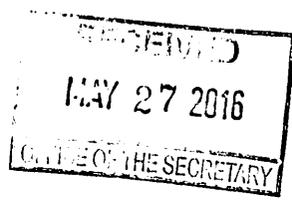
In the Matter of :

BioElectronics Corporation
IBEX, LLC
St. John's LLC
Andrew J. Whelan, CPA
Robert P. Bedwell, CPA

Respondents.

Administrative Proceeding
File No. 3-17104

**DECLARATION OF
YUE QIN**



Stanley C. Morris
CORRIGAN & MORRIS LLP
201 Santa Monica Blvd., Suite 475
Santa Monica, CA 90401
scm@cormorllp.com
310.394.2828
310.394.2825

Attorneys for Respondents

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I, Yue Qin, declare and state as follows:

1. I am over the age of eighteen. I have personal knowledge of the facts stated herein and, if called as a witness, I would testify competently thereto.

2. I am a fourth year PhD student at Duke University.

3. In the course of my research at Duke, I have conducted over 200 event studies that were aimed at determining if the introduction of new information into the market place resulted in unexpected abnormal returns.

4. Attached hereto is a true and correct copy of the event study report I prepared at the request of BioElectronics Corporation.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and accurate.

Executed this 24th day of May 2016 at Durham, North Carolina.



Yue Qin

Introduction

My name is Yue Qin and I am a fourth year PhD student at Duke University. In the course of my research here at Duke, I have conducted over 200 event studies that were aimed at determining if the introduction of new information into the marketplace resulted in unexpected abnormal returns. The basic logic is that if the information made available to the market provides new and material information, then the market will quickly adjust stock prices to reflect this new information. If the information is not material (and thus does not alter the expected future profits), then the market will not react and there will be no significant unexpected (abnormal) returns. This approach has long been used in the finance and accounting literature to determine the impact of specific events such as the disclosure of a specific accounting change or a new merger, etc. Over the years, the field has settled on a standard approach for conducting such event studies (See for example Brown and Warner, 1985 or Das et al. 1998). Given my expertise in conducting such studies, I was asked by BioElectronics to run a series of event studies to determine if there were any abnormal returns for BIEL stock associated with specific announcements found in their financial statements. This short report details the data used, the basic methodology underlying my analyses, and the overall conclusions that should be reached based on the results of my analyses.

Data Sources

I was provided BioElectronics' daily stock price data from 2009-2013, which were used to calculate stock returns. Additional daily value-weighted market return was obtained from COMPUSTAT. The dates analyzed were the following: March 31, 2010, the release of the financial statement for the year 2009 that first listed the two bill and

hold transactions, May 12, 2010 the date of the release of the first quarter 10-Q, August 20th, 2010 the date of the release of the second quarter 10-Q, November 15th, the date of the release of the third quarter 10-Q, all of which provided new information on the status of the bill and hold transactions, and April 12, 2011 when BioElectronics released its 2010 annual report that restated the 2009 earnings to reflect the actual events associated with the bill and hold transactions.

Model of abnormal returns

The dependent variable used in my analyses was the firm's abnormal returns associated with several specific dates stated above. Using a standard event study methodology, I calculate these abnormal returns using the conventional market model.

To estimate the *market model* (Brown and Warner 1985), I used daily stock return data up to the 60-day period ending 10 days before the event day: $r_{it} = \alpha_i + \beta_i r_{mt} + \varepsilon_{it}$, where r_{it} is the daily stock return of firm i on day t , r_{mt} is the daily returns on the value-weighted index, α_i and β_i are firm-specific parameters, and ε_{it} is assumed to be distributed i.i.d normal. I used the estimates obtained from this model to predict the daily returns of this firm on event day using $\hat{r}_{it} = \hat{\alpha}_i + \hat{\beta}_i r_{mt}$, where \hat{r}_{it} is the predicted daily return, $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the market model estimates. I calculated daily firm abnormal returns at time t as $AR_{it} = r_{it} - \hat{r}_{it}$. The cumulative abnormal returns (CAR) for the event period from t_1 to t_2 is $CAR_i[t_1, t_2] = \sum_{t_1}^{t_2} AR_{it}$, where positive values indicate the market reacted positively to the new information and negative values indicate the converse. In determining the event period, I used both 3- and 5-day window (3 or 5 days before and after the event). The standard logic for using such windows is that there might be some leakage of information before the announcement and it may take a few days for the new

(unanticipated) information to defuse through the investor population. I then performed standard statistical analyses to determine if the observed values of CAR were significantly different from zero, i.e., if the market reacted either positively or negatively to the new information. Only statistically significant values of CAR should be interpreted as indicating that the market found the information to contain new and material information.

Results

The results are presented in the attached excel spread sheet. The first column is the observation number, where each observation is a given day, e.g., observation 313 is March 31, 2010. The second column is the abnormal return associated with that day, e.g., -.0043535 as found in the 5 day window results. The third column is the cumulative abnormal return around the event day, where the cumulative figure is either around a 3 or 5-day window and the fourth column is the t-test to see if this value of CAR is statistically significantly different from zero. For example again using the 5-day window results, the CAR value for March 31, 2010 is .0923605 with a t value of .767. This latter figure indicates that the value of CAR is not significantly different from zero given the expected randomness of the observed errors.

Looking at the data it is clear that there were no statistically significant abnormal returns around the five dates analyzed, regardless if one uses a 3 or 5-day window. The largest t value is observed for the August 20th event and in this case the abnormal return was positive, indicating at the market reacted favorably to this new information. However, even here the t value is substantially below the value needed to say that the CAR results are statistically significant.

Based on these results and my expertise on analyzing over 200 other informational events, it is my opinion that there is no empirical evidence that the market reacted positively or negatively to the information contained in the financial statements released by BioElectronics on the above-mentioned dates. Thus, even though the information in each of these statements may have been “new”, it was already anticipated and/or not material in the market’s evaluation of the long term value of BioElectronics’ stock.

Yue Qin

References

Brown, Stephen J. and Jerold B. Warner (1985), “Using Daily Stock Returns: The Case of Event Studies,” *Journal of Financial Economics*, 14 (1), 3-31.

Das, Somnath, Pradyot K. Sen, and Sanjit Sengupta (1998), “Impact of Strategic Alliances on Firm Valuation,” *Academy of Management Journal*, 41 (1), 27-41.

Sood, Ashish and Gerard J. Tellis (2009), “Do Innovations Really Pay Off? Total Stock Market Returns to Innovation,” *Marketing Science*, 28 (3), 442-56.

observation number	AR	CAR	t test	difference from event date and event date	
308	1	-.0065048	.0923605	.7674691	-5 31mar2010
309	1	.0463454	.0923605	.7674691	-4 31mar2010
310	1	-.0228061	.0923605	.7674691	-3 31mar2010
311	1	.0294942	.0923605	.7674691	-2 31mar2010
312	1	-.0068281	.0923605	.7674691	-1 31mar2010
313	1	-.0043535	.0923605	.7674691	0 31mar2010
314	1	.0941579	.0923605	.7674691	1 31mar2010
315	1	-.0078008	.0923605	.7674691	2 31mar2010
316	1	.0028438	.0923605	.7674691	3 31mar2010
317	1	-.0366258	.0923605	.7674691	4 31mar2010
318	1	.0044382	.0923605	.7674691	5 31mar2010
1448	2	.0197772	-.1074031	-.6750287	-5 12may2010
1449	2	.0203561	-.1074031	-.6750287	-4 12may2010
1450	2	-.0308323	-.1074031	-.6750287	-3 12may2010
1451	2	.0428365	-.1074031	-.6750287	-2 12may2010
1452	2	.0591452	-.1074031	-.6750287	-1 12may2010
1453	2	.0007648	-.1074031	-.6750287	0 12may2010
1454	2	-.0788114	-.1074031	-.6750287	1 12may2010
1455	2	-.0598407	-.1074031	-.6750287	2 12may2010
1456	2	-.0775679	-.1074031	-.6750287	3 12may2010
1457	2	-.0256872	-.1074031	-.6750287	4 12may2010
1458	2	.0224565	-.1074031	-.6750287	5 12may2010
2625	3	-.1580772	.2768523	.7928342	-5 16aug2010
2626	3	.0865518	.2768523	.7928342	-4 16aug2010
2627	3	.0117282	.2768523	.7928342	-3 16aug2010
2628	3	.0180982	.2768523	.7928342	-2 16aug2010
2629	3	.0505313	.2768523	.7928342	-1 16aug2010
2630	3	.0261381	.2768523	.7928342	0 16aug2010
2631	3	.0266955	.2768523	.7928342	1 16aug2010
2632	3	.2450078	.2768523	.7928342	2 16aug2010
2633	3	.0855131	.2768523	.7928342	3 16aug2010
2634	3	-.1165416	.2768523	.7928342	4 16aug2010
2635	3	.0012071	.2768523	.7928342	5 16aug2010
3800	4	.0265227	-.1547863	-.9198621	-5 15nov2010
3801	4	.0115842	-.1547863	-.9198621	-4 15nov2010
3802	4	-.0134619	-.1547863	-.9198621	-3 15nov2010
3803	4	.002219	-.1547863	-.9198621	-2 15nov2010
3804	4	.0391435	-.1547863	-.9198621	-1 15nov2010
3805	4	-.0822364	-.1547863	-.9198621	0 15nov2010
3806	4	-.0880467	-.1547863	-.9198621	1 15nov2010
3807	4	-.0002923	-.1547863	-.9198621	2 15nov2010
3808	4	-.0901123	-.1547863	-.9198621	3 15nov2010
3809	4	.051028	-.1547863	-.9198621	4 15nov2010
3810	4	-.0111341	-.1547863	-.9198621	5 15nov2010
5013	5	-.0002504	-.4226868	-1.226454	-5 12apr2011

5014	5	-0004778	-4226868	-1.226454	-4	12apr2011
5015	5	-0184446	-4226868	-1.226454	-3	12apr2011
5016	5	.0127011	-4226868	-1.226454	-2	12apr2011
5017	5	-0274746	-4226868	-1.226454	-1	12apr2011
5018	5	-0259122	-4226868	-1.226454	0	12apr2011
5019	5	.0106344	-4226868	-1.226454	1	12apr2011
5020	5	-0320651	-4226868	-1.226454	2	12apr2011
5021	5	.0204976	-4226868	-1.226454	3	12apr2011
5022	5	-0147423	-4226868	-1.226454	4	12apr2011
5023	5	-3471529	-4226868	-1.226454	5	12apr2011