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(Lack of) Momentum in the *Investor's Business Daily* 100**Abstract**

This paper looks for evidence of momentum in the *Investor's Business Daily* 100 (IBD 100). Thousands of investors use the IBD 100 as a source of momentum stocks. These investors believe that the momentum exhibited by IBD 100 stocks will continue to drive IBD 100 stock prices upward. We find no evidence that stocks in the IBD 100 exhibit momentum. Our results show that returns for the top 40 stocks in the IBD 100 are essentially zero over the month following publication. This "non-result" is important because *Investor's Business Daily* is a nationally published newspaper and investors need to know that there is no evidence that stocks in the IBD 100 exhibit momentum that can be profitably exploited. In addition, we find that the IBD 100 can actually be used as a contrarian indicator. The top 40 stocks in the IBD 100 underperform the market in the year after publication.

Keywords: momentum, Investor's Business Daily.

JEL Classification: G12.

Introduction

There are as many different investment strategies as there are individual investors. An investor may use value investing, growth investing, technical analysis, fundamental analysis, contrarian strategy, momentum investing or a myriad of other possible techniques for selecting securities. However, the topic of momentum investing has been of special interest to both individual investors and academics recently. For example, Malkiel (2000) argues that momentum investing was one of the causes of the dramatic rise in the Nasdaq during the late 1990's. Pettengill, Edwards, and Schmitt (2006) find that both individual and professional investors have a strong tendency to select momentum securities. But Greenberg (2006) cautions his readers to be wary of buying stocks with momentum because they can very quickly fall out of favor and suffer rapid, severe stock price declines. Given the recent interest in momentum investing, this paper explores the persistence of momentum in the securities listed every week in the *Investor's Business Daily* (IBD) 100.

Momentum investing is conceptually simple. The investor buys stocks that have performed well recently in hopes that the recent performance will continue in the future. Swinkels (2004) is more specific. He writes, "A momentum (contrarian) strategy is based on a simple rule: buy stocks that performed best (worst) and sell stocks that performed worst (best) in the recent past." However, when it comes to actually implementing a momentum investment strategy, as usual, the devil is in the details. Does "recent past" mean the performance over the past one week, one month, two months, or one year? What exactly does "performed best" mean? Do you compare a particular stock's returns to the market, to other stocks in the same industry, or some other

benchmark? Given these kinds of questions, how is an investor to determine if a stock exhibits momentum? To answer this query we first examine how academics define momentum, and their conclusions regarding the existence of momentum. We then turn to how investors outside the academy determine momentum.

1. The academic literature on momentum investing

The seminal paper on momentum is Jegadeesh and Titman (1993). They use data from 1965-1989 and base their stock selection on relative strength over the past one, two, three, and four quarters. They examine holding periods of the same durations. They implement a zero-cost strategy of buying high relative strength portfolios and selling low relative strength portfolios. They find that this strategy generates returns of about 1% per month regardless of holding period, using a six month formation period. In other words, they find empirical evidence supporting the existence of momentum in stock prices for time periods up to one year.

Jegadeesh and Titman (1993) sparked a series of other papers on momentum. Most of the subsequent papers followed formation, holding period, and zero-cost portfolio selection methodology similar to Jegadeesh and Titman (1993) and also found similar results. Some of these papers are shown in Table 1.

Table 1. Papers reporting momentum returns¹

Publication	Momentum ²	T-value ³	Sample ⁴
Jegadeesh and Titman (1993)	0.95%	3.07	1965 - 89
Conrad and Kaul (1998)	0.36%	4.55	1962 - 89
Moskowitz and Grinblatt (1999)	0.43%	4.65	1973 - 95
Hong, Lim, and Stein (2000)	0.53%	2.61	1980 - 96
Lee and Swaminathan (2001)	1.05%	4.28	1965 - 95
Jegadeesh and Titman (2001)	1.23%	6.46	1965 - 98

Table 1 (cont.). Papers reporting momentum returns¹

Publication	Momentum ²	T-value ³	Sample ⁴
Chordia and Shivakumar (2002)	1.51%	6.52	1963 - 94
Griffen, Ji, and Martin (2003)	0.58%	3.31	1927 - 00

Notes: 1. This table is taken from Table 2 in Swinkels (2004). 2. Reported average monthly excess return on winner minus loser strategies. 3. Corresponding t-values. 4. Sample period.

Table 1 shows that a number of other papers also find empirical support for the existence of momentum. This series of papers has more or less ended the debate in academia about the existence of momentum, so the current academic debate has shifted to analyzing and explaining momentum. That strand of the literature is not germane to this paper and will not be discussed here, but the interested reader is referred to Swinkels (2004) for a good survey of papers on momentum. For purposes of this paper, the important point to be taken from the recent momentum literature is that there is substantial academic support for the idea that stock prices can exhibit momentum.

It should be noted that other researchers have also used IBD as a source for momentum stocks. Olson, Nelson, Will, and Mossman (1998) use IBD rankings to test for momentum in S&P 500 stocks. They use end of the month relative strength and earnings per share rankings from IBD to test for excess returns based on these two measures. They find that “Market-adjusted abnormal returns could have been realized by buying highly ranked stocks.” Put another way, they find that stocks ranked highly by IBD can be used as a source of profitable momentum stocks.

2. How practitioners define momentum

Although academics have only recently concluded that momentum actually exists, investors have been betting their own money on momentum-related investment strategies for decades. For example, one of the most famous investors of the early 20th century, Jesse Livermore, was a momentum investor even though he didn’t call it that. In Livermore (2001, p. 12) he writes, “... I become a buyer as soon as a stock makes a new high on its movement, after having had a normal reaction.” The basic Livermore’s investment philosophy was to buy a stock after it has made a new high and add to the position after it was profitable. This counter-intuitive idea of buying new highs (as opposed to the general principle of buy low, sell high) can only be profitable if the stock making a new high continues to make new highs going forward. In other words, it can only be profitable if the stock has momentum. Livermore

made millions of dollars utilizing this investment philosophy.

The famous Turtle Traders of the 1980’s used a similar investment philosophy. The Turtles were a group of thirteen people trained by Richard Dennis to trade futures using his investment strategy. Dennis, who made millions of dollars trading futures, taught the Turtles how to trade and then gave each of them money to start their trading careers. Curtis Faith was the most successful of the Turtles and his book, *Way of the Turtle*, describes his trading experiences and reveals the secrets of the Turtle trading system. Faith (2007, p. 259) says that the Turtles used two systems to enter positions. He writes, “Turtles entered positions when the price exceeded by a single tick the high or low of the preceding twenty days.” The second trade entry system was similar except that it used the high or low for the preceding 55 days. These two entry systems are obviously very similar to the Livermore entry system and both systems depend on momentum to be successful. Like Livermore, the Turtles made millions of dollars using these systems.

William J. O’Neil is another well-known investor who advocates momentum investing, although it is interesting to note that O’Neil says, “I’m not even sure what ‘momentum investing’ is” in his book, *How to Make Money in Stocks* (p. 77). Even though O’Neil makes that argument, others view his newspaper, *Investor’s Business Daily*, as a primary source for momentum stocks. For example, Greenberg (2006) states that IBD is “largely viewed as the bible of momentum investing”.

O’Neil explains his investment philosophy in *How to Make Money in Stocks*. He uses the acronym CANSLIM to describe the seven basic tenets of his investment approach. His emphasis is on earnings, relative strength, and technical analysis. The first two letters in CANSLIM refer to current quarterly earnings and annual earnings increases. O’Neil argues that a stock cannot advance without increasing earnings. He also argues that a stock should exhibit relative price strength (RS) in order to be considered for investment. O’Neil (p. 39) describes his RS measure as follows:

The RS rating is defined as: A proprietary rating that measures the performance of a given stock against the rest of the market for the past 52 weeks. Each stock is assigned a performance rating from 1 to 99, with 99 being best. An RS rating of 99 means that the stock has outperformed 99% of all other companies in terms of price performance.

He goes on to suggest that investors only purchase stocks that have an RS rating of 80 or higher. This is where IBD gets its reputation for promoting momentum stocks. Restricting investments to stocks that have outperformed 80% of the stocks in the market over the last year ensures that the investor is buying stocks that currently have momentum. All the stocks in the IBD 100 (discussed in the next section) have high relative strength ratings.

The third main leg of O’Neil’s investment philosophy focuses on stock charts. He says (p. 40), “When you buy, make absolutely sure the stock is coming out of a sound base (price consolidation area) and that you buy it at its exact pivot buy point. Also be sure it’s not extended more than 5% or 10% above the precise buy point of this base.” O’Neil adds the caveat about making sure the stock is not too far above its price base in order to protect the investor from the sudden price drops that momentum stocks are prone to.

3. The Investor’s Business Daily 100

The Monday edition of IBD includes a listing of what the publication calls the IBD 100. The newspaper describes the IBD 100 as follows:

The IBD 100 is a computer generated ranking of leading companies trading in the U.S. Rankings are based on a combination of each company’s profit growth; IBD’s Composite Rating, which includes key measures such as return on equity, sales growth and profit margins; and relative strength. Stocks with a highlighted border typically have strong fundamentals and sound base patterns and may merit further review.”

The IBD 100 is presented as a series of 100 stock price charts that are ranked from one to one hundred. Figure 1 shows an example of an IBD 100 stock chart.

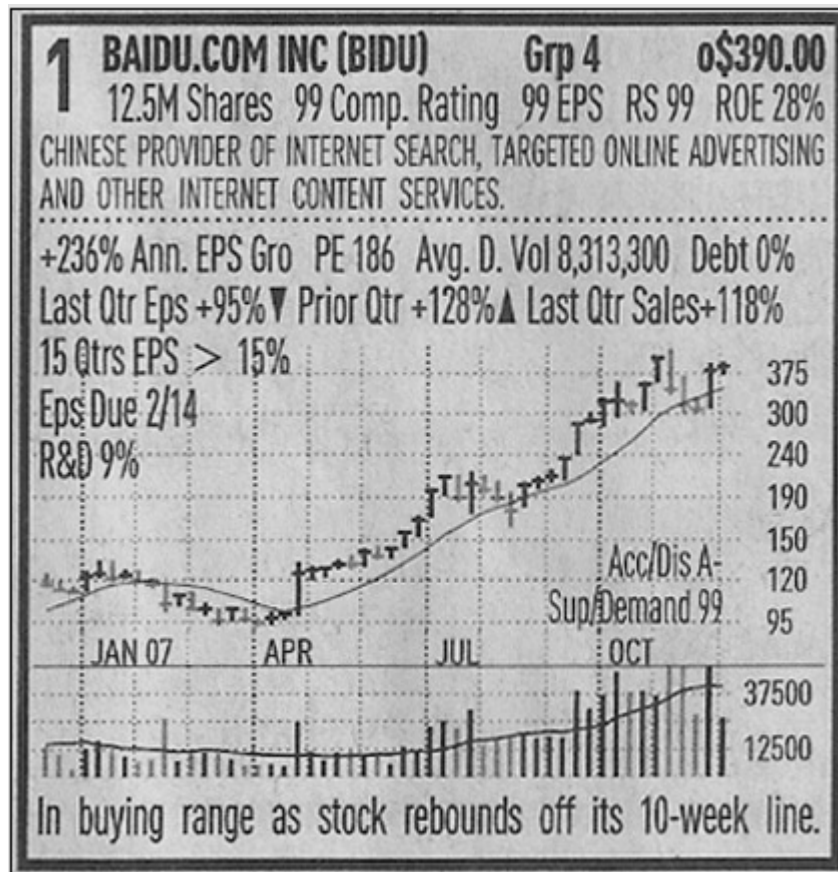


Fig. 1. Example of an IBD 100 stock chart

Figure 1 shows that each IBD 100 chart includes (among other information) a brief description of the company’s business, the number of shares outstanding, various proprietary IBD ratings such as the RS ratings, earnings growth rates, and when earnings will be released next. A dark border around the stock (as in Figure 1) suggests that the stock price has just broken through an area of consolidation as

described in O’Neil (2002). Although there is a disclaimer in the newspaper saying to investigate before you invest, a border around a stock is virtually a recommendation to buy the stock. In addition, on the same page as the top 20 IBD 100 stocks, there is a bar chart in each Monday edition showing that the IBD 100 has substantially outperformed the S&P 500 over the past four years. This bar chart implies

that individual investors can achieve high returns by investing in the IBD 100.

The purpose of this paper is to investigate the persistence of momentum in the stocks recommended in the IBD 100. Is it profitable to buy the momentum stocks that are listed in the IBD 100 every week? Given that the listed stocks have already exhibited significant momentum in order to be listed, does that momentum persist into the future so that buying IBD 100 stocks will be profitable? Since IBD is one of the most widely read business newspapers in the country, thousands of investors (IBD circulation was 302,400 in 2001 according to the Audit Bureau of Circulations) stand to benefit from the answer to this question. This paper also contributes to the momentum literature by using a different, and easily utilized, methodology to select momentum stocks. In addition, we use IBD 100 risk-adjusted returns to examine momentum from a theoretical rather than a strictly practical standpoint.

4. Methodology

The Monday edition of IBD, which includes the IBD 100 in the second section of the paper, is actually delivered on Saturday. This means that the stock prices in each Monday edition of the paper are for the previous Friday. Our data set uses 52 weeks of IBD Monday editions from Dec 26, 2005 through January 5, 2007. The returns for the top 40 stocks in each week's IBD 100 are calculated over the following periods: one week, two weeks, one month, two months, three months, six months, and one year from the Friday closing price reported in that edition. These time frames are used to investigate the persistence of momentum in the IBD 100 stocks over the short and medium term. There are a total of 2050 stocks in the data set because we were unable to obtain complete returns data for some ticker symbols.

We use only the top 40 IBD 100 stocks because we believe that most individual investors using the IBD 100 as a momentum stock selection tool will select

stocks out of this group. The top 20 stocks of the IBD 100 are shown on the front page of the second section of the paper and the next 20 stocks are always on the third page of that section. An investor has to delve deeply into the paper to get to the remaining 60 stocks in the IBD 100, and we hypothesize that most individual investors don't do that. In addition, we believe that investors are likely to have a psychological tendency to pick top-ranked stocks from the list over lower-ranked stocks. Therefore, we use only the top 40 IBD 100 stocks in this momentum study.

One other issue needs to be addressed before presenting the results of the study. There is a strong tendency for the same stocks to show up in the IBD 100 week after week. For example, 36 of the top 40 stocks in the IBD 100 from the first week of our data set are also included in the second week of the data set. However, over the course of the study, there is significant turnover. There are five stocks that are included in both the first and the 26th week of the data set. There are only three stocks that are common to the first and last weeks of the data set. We do not believe that replication of stocks from week to week compromises our results. There is no reason to think that individual investors wait for new stocks to be included in the list before buying them. In addition, an investor might watch a stock for several weeks before deciding to buy. In other words, even though an individual stock might be included in the IBD 100 in successive weeks, the individual investor's investment decision is made on a week-to-week basis. Therefore, the returns going forward from any single Monday edition of IBD are independent of each other from an investment decision perspective.

5. Results

Because individual investors are interested purely in profitability, we start with non-risk-adjusted results. Table 2 shows the returns data for the top 40 stocks in the IBD 100 over seven different time periods.

Table 2. Returns for the top 40 stocks in the IBD 100 from Friday closing price

	1 week	2 weeks	1 month	2 months	3 months	6 months	1 year
Average	0.21%	0.45%	0.60%	0.43%	-0.07%	-0.25%	0.39%
t-statistic ¹	1.31	1.94	1.77	0.86	-0.12	-0.37	0.44
Median	0.32%	0.43%	0.46%	-1.57%	-2.36%	-4.43%	-4.92%
Maximum	34.66%	67.23%	83.15%	176.36%	187.13%	170.56%	180.34%
Minimum	-36.74%	-53.80%	-64.33%	-73.94%	-70.19%	-76.32%	-98.51%
Std. dev.	7.27%	10.45%	15.35%	22.35%	26.23%	30.87%	39.43%

Table 2 shows that the average returns for the top 40 IBD 100 stocks are positive at one week, two weeks, one month, two months and one year with

the three and six month returns being negative. The average return of 0.45% at the two weeks is statistically significant but none of the rest of the average

returns data has statistical significance. The maximum return on any of the 40 stocks is over 187% at the three-month time frame and the minimum return is – 98% at one year. The median return is positive out to one month and negative thereafter.

The average returns data in Table 2 are intriguing. The average returns for the top 40 IBD 100 stocks are positive out to two months. Even though only the two-week return has statistical significance, these results suggest that these stocks exhibit short-term momentum that can be profitably exploited. The average return becomes negative at three and six months but the statistical insignificance of these results prevents us from drawing any conclusion about longer-term momentum. The positive result

for the first two months may explain how *Investor's Business Daily* can claim that the IBD 100 outperforms the S&P 500 on a weekly returns basis as reported in each weekly edition of the IBD 100.

6. Real world trading considerations

The returns data in Table 2 are generated from the Friday closing price reported in that week's IBD. Obviously, anyone who wants to trade on the information from that week's IBD cannot buy the stock at the Friday closing price. Interested investors have to buy the stock on Monday morning. Therefore, we repeat the analysis done in Table 2, assuming the starting price is the opening price on the following Monday. Results are shown in Table 3.

Table 3. Returns for the top 40 stocks in the IBD 100 from Monday opening price

	1 week	2 weeks	1 month	2 months	3 months	6 months	1 year
Average	-0.22%	0.02%	0.16%	0.01%	-0.47%	-0.62%	-0.06%
t-statistic ¹	-1.34	0.08	0.47	0.02	-0.81	-0.91	-0.07
Median	-0.10%	0.08%	0.06%	-1.80%	-2.77%	-4.89%	-5.68%
Maximum	52.41%	67.23%	79.29%	169.16%	189.00%	159.18%	190.76%
Minimum	-38.68%	-55.10%	-65.33%	-74.19%	-70.47%	-76.99%	-97.32%
Std. dev.	7.27%	10.40%	15.18%	22.22%	26.11%	30.84%	39.37%

Note: t-statistics are calculated as follows: $t = \text{Average} / ((\text{Std. dev}) / (2050)^{0.5})$.

Table 3 shows that all of the average returns measured from the Monday opening price are lower than the returns measured from the Friday closing price. The statistically significant average return of 0.45% at two weeks from Table 2 is reduced to almost zero with no statistical significance at two weeks in Table 3. The average return of 0.6% at one month in Table 2 is reduced to an average return of 0.16% at one month in Table 3. All of the average returns data in Table 3 are statistically insignificant. Quite simply, there is no evidence that the top 40 stocks in the IBD 100 exhibit momentum based on the data in Table 3.

These results are exactly what one would expect from stocks with short-term momentum. The average Monday opening price would be expected to be higher than the Friday closing price for momentum stocks. Buying at higher Monday opening prices results in lower returns going forward. It should be noted at least a portion of the price increase from Friday to Monday may be attributed to relatively prominent exposure in the nationally published IBD 100 over the weekend. Overall, the results in Table 3 compared to Table 2 suggest that the evidence of short-term momentum in Table 2 is illusory. The top 40 stocks in the IBD 100 may exhibit momentum in the short-term based on Friday closing prices but in practice investors cannot exploit this momentum

because they have to buy the stocks at prices that are often higher on Monday morning.

7. Results for IBD 100 stocks with borders

As noted earlier, IBD puts a border around some of the stocks in the IBD 100. The border indicates that the stock has a chart pattern that conforms to what O'Neil recommends in *How to Make Money in Stocks*. *Investor's Business Daily* 100 stocks with borders have chart and momentum characteristics that O'Neil argues are typical of stocks that have performed very well in the past. Therefore, a border around a stock is an implicit recommendation of that stock by IBD, even though IBD is careful to state, "Stocks with a highlighted border typically have strong fundamentals and sound base patterns and may merit further review." We believe that the caveat in the previous sentence is given for legal reasons and that IBD is actually making an explicit recommendation when it puts a border around a stock in the IBD 100. We take the border to mean that IBD believes that the bordered stock will outperform going forward so we repeat the analysis we did for the top 40 stocks in the IBD 100 for the bordered stocks. The bordered stocks are chosen from the entire IBD 100 rather than just the top 40 stocks in the IBD 100 in order to improve the statistical power of the analysis. There are a total of 155

stocks with borders in the data set. Returns generated from the Friday close are shown in Table 4. Returns generated from the Monday opening are

shown in Table 5. *Investor's Business Daily* 100 stocks with borders are hereafter referred to as "boxed stocks".

Table 4. Returns for boxed stocks in the IBD 100 from Friday closing price

	1 week	2 weeks	1 month	2 months	3 months	6 months	1 year
Average	1.02%	1.08%	2.55%	1.03%	- 0.48%	- 1.00%	5.55%
t-statistic ¹	1.94	1.61	2.9	0.83	- 0.36	- 0.55	1.71
Median	0.86%	1.50%	3.35%	0.08%	-0.73%	-1.19%	-3.77%
Maximum	33.85%	36.09%	53.86%	62.99%	49.64%	53.00%	135.51%
Minimum	-28.95%	-28.46%	-26.25%	-40.42%	-40.33%	-54.53%	-78.14%
Std. dev.	6.57%	8.36%	10.98%	15.41%	16.90%	22.63%	40.19%

Table 5. Returns for boxed stocks in the IBD 100 from Monday opening price

	1 week	2 weeks	1 month	2 months	3 months	6 months	1 year
Average	- 0.50%	- 0.42%	1.02%	- 0.46%	- 1.92%	- 2.41%	4.10%
t-statistic ¹	- 0.90	- 0.61	1.14	- 0.37	- 1.40	- 1.32	1.26
Median	-0.12%	-0.20%	1.44%	-1.20%	-2.43%	-2.96%	-5.57%
Maximum	37.39%	39.68%	57.93%	67.30%	53.59%	52.41%	141.57%
Minimum	-28.75%	-28.26%	-27.14%	-42.32%	-40.94%	-55.79%	-66.52%
Std. dev.	6.83%	8.70%	11.16%	15.58%	17.14%	22.75%	40.39%

Note: t-statistics are calculated as follows: $t = \text{Average} / ((\text{Std. dev}) / (155)^{0.5})$.

Table 4 shows that the average returns at one week and one month for the boxed stocks are statistically significant, 1.02% and 2.55% respectively, when measured from the Friday close. The average return of 1.08% at two weeks is not statistically significant. The returns for two months to one year are also not statistically significant. Similar to the results in Table 2 for the top 40 stocks in the IBD 100, these findings suggest that boxed stocks exhibit short-term momentum that can be exploited profitably.

Table 5 shows that average returns at all time frames are lower when the returns are measured from the Monday opening price rather than the Friday closing price. The uniformly lower returns in Table 5 compared to Table 4 suggest that the boxed stocks open at higher prices on Monday morning compared to the Friday close. This would account for the lower average returns in Table 5. It is likely that at least part of the increase in price in boxed stocks over the weekend is due to national exposure in the IBD 100 since relatively few stocks in the IBD 100 have borders and the bordered stocks stand out visually.

In addition to being lower than the Table 4 returns, none of the average returns in Table 5 are statistically significant. In particular, the statistically significant returns at one week and one month in Table 4 have become insignificant in Table 5. The Table 5 results suggest that investors cannot exploit the

short-term momentum results shown in Table 4 for boxed stocks because in practice they must purchase the stocks at higher prices on Monday morning.

Overall, the results in Tables 4 and 5 are very similar to those in Tables 2 and 3. When returns are measured from Friday closing prices, Tables 2 and 4 suggest that IBD 100 stocks exhibit short-term momentum. However, the informational advantage of being able to identify momentum stocks on Saturday from the IBD 100 cannot be profitably exploited because of the practical consideration of having to buy stocks at higher prices on Monday morning. The composite data in Tables 2-5 are what should be expected in an efficient market. The efficient market hypothesis argues that investors cannot earn excess returns using publicly available information. Since IBD is a public news source, investors should not be able to use the information it contains to earn a consistent profit. Therefore, the results shown in Tables 2-5 are consistent with an efficient market.

8. Risk-adjusted results

The previous returns analysis is not risk adjusted. In other words, the returns are analyzed independent of what happened to the market over the same time periods. However, in order to investigate the presence (or absence) of momentum from a theoretical standpoint, the analysis must be repeated taking market action into account. If this is not done, it is

possible to incorrectly conclude that momentum exists when the momentum conclusion is actually a product of overall market action. For example, if the market moves steadily upward over the period of time of the analysis, average returns for all stocks, including the stocks in the study, would be positive and could lead to a conclusion that momentum exists even though the result is simply a product of the bull market.

This potential problem can be corrected by adjusting individual stock returns to take the market return into account. We make this risk adjustment by subtracting the Nasdaq Composite Index return from each individual stock return before calculating average returns for the data set. The Nasdaq Composite Index is used for the risk adjustment because the majority of stocks in the IBD 100 trade on the Nasdaq stock exchange. The results of the analysis are shown in Table 6.

Table 6. Risk-adjusted average returns and associated t-statistics

	1 week	2 weeks	1 month	2 months	3 months	6 months	1 year
Average return IBD Top 40 from Fri. close	0.10 %	0.23 %	-0.05 %	-0.89 %	-2.01%	-5.90%	-12.37%
t-statistic	0.64	1.04	-0.14	-1.86	-3.60	-8.85	-14.69
Average return IBD Top 40 from Mon. open	-0.33%	-0.20 %	-0.49 %	-1.31 %	-2.41 %	-6.27 %	-12.82%
t-statistic	-2.19	-0.91	-1.51	-2.74	-4.35	-9.43	-15.18
Average return IBD boxed from Fri. close	1.08 %	0.99 %	1.83 %	-0.03 %	-1.83 %	-5.00%	-4.63%
t-statistic	2.22	1.56	2.16	-0.03	-1.46	-2.96	-1.48
Average return IBD boxed from Mon. open	-0.44 %	-0.51 %	0.29 %	-1.52 %	-3.27 %	-6.40%	-6.05 %
t-statistic	-0.85	-0.77	0.34	-1.28	-2.57	-3.76	-1.91

Starting with the average returns data for the top 40 stocks of the IBD 100 with returns measured from the Friday close, Table 6 shows no evidence of short-term risk-adjusted momentum over the two months following publication. The t-statistics associated with the average returns are statistically insignificant at one week, two weeks, one month and two months. However, the risk-adjusted returns for this set of stocks become negative and statistically significant at three months, six months, and one year. Therefore, in contrast to the results in Table 2, there is no evidence of short-term momentum in the risk-adjusted results for the top 40 stocks in the IBD 100 even with returns measured from Friday closing prices. The results do show that the risk-adjusted returns are negative and statistically significant past three months when prices are measured from the Friday close.

However, as noted earlier, investors cannot actually buy the stocks at the Friday closing price. Investors must wait until Monday morning to purchase the stocks. Therefore, we repeat the risk-adjusted momentum analysis using returns measured from the Monday opening prices rather than the Friday closing prices.

The third and fourth rows of Table 6 show that the risk-adjusted average returns for the top 40 stocks in the IBD 100 are all negative when measured from Monday opening prices and that five of the seven returns are statistically significant. All of the risk-

adjusted returns after two months are statistically significant. This means that the top 40 stocks in the IBD 100 underperform the Nasdaq Composite Index by a statistically significant amount over the longer term.

Risk-adjusted returns for the boxed stocks are shown in the bottom half of Table 6. The results are similar to the results for the top 40 stocks in the IBD 100 except that there is some evidence of risk-adjusted momentum in the boxed stocks when the returns are measured from the Friday close. The risk-adjusted returns at one week and one month are statistically significant. This result is similar to the evidence of short-term momentum in the boxed stocks shown in Table 4 when returns are measured from the Friday close. However, as in the top half of Table 6, the risk-adjusted returns are negative and statistically significant at three months and six months when returns are measured from the Monday opening price. Just like the top 40 stocks in the IBD 100, the boxed stocks underperform the Nasdaq Composite index by a statistically significant amount in the three to six month time frame. The longer-term risk adjusted results for both the top 40 stocks in the IBD 100 and the boxed stocks suggest that shorting these stocks may be a profitable strategy.

9. The IBD 100 as a contrarian indicator

Given the mountain of evidence supporting the efficient market hypothesis, it is actually not very sur-

prising that we did not find evidence of momentum in the IBD 100. But it is important for investors to be aware of this result (hence this paper) because many investors purchase IBD 100 stocks believing that the IBD 100 is a reliable source of momentum stocks. However, we were surprised to find that the IBD 100 can actually be used as a contrarian indicator. The results in Table 6 for both the top 40 stocks in the IBD 100 and for the boxed stocks show that returns are negative and statistically significant at three months and six months following publication. Table 6 shows that the Nasdaq Composite Index has outperformed the top 40 stocks by more than 12% in the year after publication and it has outperformed the boxed stocks by 6% in the year after publication when returns are measured from Monday opening prices. These results suggest that buy-and-hold investors who purchase IBD 100 stocks may have to wait a long time for their investment to become profitable. This probably explains why William O'Neill advocates taking the loss on any stock when it declines 7%-8% from the purchase price.

Of course, knowing that IBD 100 stocks tend to underperform six months to one year after publication also suggests that shorting these stocks may be a profitable strategy. Our results show that IBD 100 stocks tend to be up on the Monday morning following publication, so shorting the stocks on Monday morning takes advantage of the increase in price over the weekend. Concurring with O'Neill, we would recommend cutting losses (buying the stock back) if the stock price increases more than 5% above the purchase price, because some of these stocks do continue to rise following publication.

One additional note on these results is in order. We should not have been too surprised by the contrarian result. As described earlier, stocks are only included in the IBD 100 when they have already exhibited a great deal of relative strength. This means that these stocks are among the best performers over the past year. The stock market overreaction hypothesis holds that high relative strength stocks have often overreacted to favorable news. Lo and MacKinlay (1999, p. 116) suggest, "Therefore, one implication

of stock market overreaction is positive expected profits from a contrarian investment rule."

There is a rich tradition of contrarian investment analysis starting with DeBondt and Thaler (1985). More recently, other studies have looked at stock performance following publication of national news. For example, Forsyth (1997) finds that magazine cover stories about the Chairman of the Federal Reserve tend to be a contrarian indicator with respect to forthcoming bond market performance. Beltz and Jennings (1997) find that panelist recommendations on "Wall Street Week" tend to have excess negative returns six months after the show. Arnold, Earl, and Northio (2007) find that positive headline stories from *Business Week*, *Fortune*, and *Forbes* are associated with inferior future performance. Since inclusion in the IBD 100 is similar conceptually to a nationally published positive news story (though with less impact for any individual stock since there are 100 stocks) it makes sense that publication in the IBD 100 can also act as a contrarian indicator.

Conclusion

This paper looks for evidence of momentum in the *Investor's Business Daily* 100 (IBD 100). We find no evidence that stocks in the IBD 100 exhibit momentum. Our results show that the average return for the top 40 stocks in the IBD 100 is a statistically insignificant $-0.22%$, $0.02%$, and $0.16%$ at one week, two weeks, and one month after publication when the returns are measured from the Monday opening price following publication. This "non-result" is important because *Investor's Business Daily* is a nationally published newspaper and investors need to know that there is no evidence that stocks in the IBD 100 exhibit momentum that can be profitably exploited. In addition, we find that the IBD 100 can be used as a contrarian indicator. The top 40 stocks in the IBD 100 underperform the market by a statistically significant amount at three months, and six months, and one year after publication when returns are measured from the Monday opening price following publication.

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