Table of Contents

Can a Simplified Version of CAN SLIM Investment Strategy Produce Abnormal Returns for Ordinary Investors?

John J. Cheh: The University of Akron
Il-woon Kim[1]: The University of Akron
Jang-hyung Lee: Daegu University, Korea

ABSTRACT

The CAN SLIM stock selection method, which was developed by William O'Neil through several versions of his book *How to Make Money in Stocks*, has been touted as one of the most successful investment strategies to gain abnormal returns in the market. One problem with this method is that it is actually a very sophisticated method and far more complex than what it appears to be, particularly for ordinary investors. The objective of this paper is to test if a simplified version of CAN SLIM can also produce significant abnormal returns so that ordinary investors with limited access to the financial data and limited analytical capability can benefit from the method. The result of the study has shown that a simplified version which did not require non-quantifiable selection criteria could produce significant abnormal returns.

Key words: CAN SLIM, investment strategy, portfolio, abnormal returns

JEL: G11

---

1. Introduction

The efficient-market theory states that financial market is informationally efficient, and therefore, no investor can consistently achieve returns in excess of the average market returns on a risk-adjusted basis, given the information available at the time the investment is made. A major implication to the investors is that it is impossible to beat the market because the efficient market causes existing share prices to always incorporate and reflect all relevant information and that the only way an investor can possibly obtain higher returns is by purchasing riskier investments.

Fama is thought of as the father of the efficient market hypothesis, beginning with his Ph.D. thesis and his ground-breaking article published in the Journal of Finance (Fama 1970). Since then, it was widely accepted until the 1990s, when behavioral finance economists, who had been a fringe element, became mainstream in the investment community. Their empirical analyses have consistently found problems with the efficient-market hypothesis, the most consistent being that stocks with low price to earnings (and similarly, low price to cash-flow or book value) outperform other stocks (Nicholson 1968; Basu 1977; Rosenberg et al. 1985; Fama and French 1992).

More recently, there has been increasing evidence that investors profit from employing various momentum investing strategies (George and Hwang 2004). The underlying theory beneath such investment strategies is explained by a simple idea of anchoring (Tversky and Kahneman 1974) which states that the investors tend to hang onto hot stocks for a while - longer than expected - once the popularity of such stocks is well established. Among the momentum investing strategies, the CAN SLIM stock selection method, which was developed by William O'Neil through several versions of his book *How to Make Money in Stocks* (1988, 1991, 1995, 2002, 2009, and 2011), has been touted as one of the most successful investment strategies to

gain abnormal returns in the market. O'Neil is also the founder of *Investor's Business Daily*.

According to an independent survey conducted by the American Association of Individual

Investors, CAN SLIM was the top performing investment strategy among 50 top investment

strategies from January 1, 1998 to December 31, 2009, producing a 2,763.3% result, an average

of 35.3% per year versus 3.3% a year for the S&P 500 during the same period (Investor's

Business Daily 2010).

CAN SLIM is an acronym for the seven selection criteria. Each letter in CAN SLIM

stands for one of the seven key factors that all of these past super winners had in common:

C = Current big or accelerating quarterly earnings and sales per share

A = Annual earnings increases: look for big growth

N = Newer companies, new products, new management, new highs off property
formed chart bases

S = Supply and demand: big volume demand at key points

L = Leader or laggard: which is your stock

I = Institutional sponsorship

M = market direction: how you can determine it

On the surface, the CAN SLIM method sounds simple and easy to use. In his most recent version of the

book explaining CAN SLIM, O'Neil states "this book isn't written for the elite, but for the millions of

ordinary individuals everywhere who want a chance to be better off financially" (O'Neil 2011, 5). A close

examination of CAN SLIM, however, reveals that it is actually a very sophisticated method and far more

complex than what it appears to be, particularly for the ordinary investors. It will take an enormous

amount of time to learn all of aspects of the seven CAN SLIM rules and rigorously follow them in

making investment decisions. As a result, the returns among the CAN SLIM investors can vary

considerably, depending on how skillfully they can interpret the subtle aspects of the various rules laid out in the CAN SLIM method.

Furthermore, O'Neil has multiple versions of his CAN SLIM book, and each version has a slightly different flavor. Hence, it would be appropriate to view CAN SLIM as a collection of investment strategies that are still evolving. It does not have a clear set of easily quantifiable guidelines that ordinary investors can mechanically follow. Finally, there has been little empirical evidence to methodically analyze CAN SLIM and show how well this method works in different market conditions (e.g., bull and bear) and different economic conditions (e.g., expansionary and contractionary). Consequently, CAN SLIM is not easily and precisely quantifiable and therefore difficult to be tested empirically.

The main objective of this paper is to critically evaluate the CAN SLIM method from the perspective of the ordinary investors and present a simplified version of CAN SLIM which does not require non-quantifiable selection criteria. The simplified version will then be empirically tested for its effectiveness under various market conditions to see whether the method withstands and produces a profitable outcome in different market conditions. The CAN SLIM method as proposed by O'Neil will be explained in the following section. A simplified version will be presented in the next section with supporting arguments, and it will be tested and the results will be analyzed in the following section. Additional factors affecting market returns will be considered next, followed by concluding remarks and suggestions for future research.

2. CAN SLIM

O'Neil (2011) claims that his CAN SLIM method is the result of examining a half century of data on winning stocks. The CAN SLIM investing method is grounded on fundamental information, such as accounting, and the momentum of stock movement, and uses both quantitative and technical analyses. Upon a detailed inspection of the method, we have found that about 70 different selection criteria are

being used. Hence, O'Neil's CAN SLIM is explained with more detail in this section.

2.1. <u>C</u> For Current Quarterly Earnings Increase per Share

In the O'Neil's stock investing strategies, the current quarterly earnings increase is a major driving force for stock price growth. He emphasizes the importance of the earnings increase by saying that his study of all the stock market superstars from the past half-century found that they did indeed share common characteristics, and that none stood out as boldly as the profits each big winner reported in the latest quarter or two before its major price advance. This sentiment is consistent with the results of numerous studies on earnings persistence in accounting and finance literature

O'Neil recommends the investors to look for stocks with a minimum increase in quarterly earnings of 18% over the same quarterly period one year ago. He also recommends omitting a company's one-time extraordinary gains in selecting stocks. He cautions against picking stocks with a mediocre 10% or 12% year-to-year quarterly earnings increase.

2.2. <u>A</u> For Annual Earnings Increase

O'Neil's primary screen for annual earnings increase requires that earnings per share show an increase in each of the last three years. He recommends that the annual growth rate is at least 25% over the last three years. Another potential addition to the CAN SLIM screen is a requirement for a company's annual return on equity (ROE). O'Neil claims that the greatest winning stocks of the past 50 years had ROEs of at least 17%. Furthermore, he suggests to look for stocks with annual cash flow per share greater than earnings per share by 20%.

2.3. <u>N</u> For New Products, New Management, or New Highs

In his study of winning stocks, O'Neil found that 95% of the winning stocks had major new products, new management or other significant change in the business. In a study of the

greatest winners from 1952 through 2001, he discovered that more than 95% of stunning successes in American industry met at least one of the above criteria. Furthermore, O'Neil suggests that this type of quality is manifested in a stock price breaking a new high. He states that our study of the greatest stock market winners proved (surprisingly) that the old adage 'buy low, sell high' was completely wrong, and that in fact, the exact opposite was true. He concludes that a stock making the new-high list - especially for the first time while trading on big volume during a bull market - might be a prospect with a big potential.

2.4. S For Supply and Demand

O'Neil believes that the law of supply and demand determines the price of almost everything in our daily life, and this basic principle also applies to the stock market. To measure a stock's supply and demand, O'Neil recommends watching its daily trading volume and—at a significant event—a big jump in the volume of stock transactions over 50% of the average volume. At the same time, O'Neil suggests including the companies buying their own stocks in the open market, but excluding the companies with excessive stock splits and a low corporate debt-to-equity ratio.

2.5. L for Leaders or Laggard

O'Neil recommends buying top two or three stocks in a strong industry that is leading the market. He suggests using the relative strength to identify market leaders. Relative strength compares the performance of a stock relative to the market as a whole. Companies are ranked by their price performance for a given period of time, and their percentage ranking among all stocks is calculated to show the relative position against other stocks. O'Neil does like buying stocks with the relative price strength of at least 80 or more. He states that the really big money-making selections generally have the relative strength ratings of 90 or higher just before breaking out of

111

their first or second base structure. O'Neil gives multiple cut-off points for the buyable stocks, depending on an investor's expected performance: 80, 87, 90, and 99.

2.6. I For Institutional Sponsorship

This selection criterion follows from the previous criterion: supply and demand of a stock. O'Neil argues that stock price increase takes a big demand and, by far, the largest source of a big demand for stocks is institutional investors who account for the lion's share of each day's market activity. Hence, O'Neil has made the institutional sponsorship as another characteristic of winning growth stocks.

Although he suggests institutional ownership as one of selection criteria, he does not emphasize the necessity of a large number of institutional owners. At the same time, he considers the increase in the total number of institutional owners in recent quarters as a positive sign, and suggests investors to invest in such stocks. Furthermore, he adds that liquidity is one of benefits of institutional sponsorship. He also argues that excessive institutional ownership is not healthy because institutional owners can sell the stock en masse if something goes wrong with the company. No definite criteria come out from this characteristic, but 5% to 35% institutional ownership is suggested as a reasonable screening filter.

2.7. M For Market Direction

The final aspect of the CAN SLIM method looks at the overall market direction. It is well known that the overall market determines most of the individual portfolio's performance. Emphasizing the importance of stock price movement, O'Neil states that the investors can be right on every one of the factors in the first six criteria, but if they're wrong about the direction of the general market, three out of four of their stocks will plummet with the market averages and they will certainly lose money big time as many people did in 2000. He continues to say that,

in their analytical tool kit, they absolutely must have a reliable method to determine if they're in a bull (up) market or a bear (down) market. O'Neil suggests that the investors study the general market every day: "In bear markets, stocks usually open strong and close weak. In bull markets, they tend to open weak and close strong. The general market average need to be studied closely every day since reverses in trends can begin on any given day. Relying on these primary indices is a much more practical and effective method for analyzing the market's behavior and determining its direction." (O'Neil 2011, 204; 206) O'Neil suggests to use stop loss orders to mechanically force stocks out of market when stock market starts to top out.

3. **Simplified CAN SLIM Investment Rules**

As mentioned earlier, the initial perception of CAN SLIM appears to have only a few investment criteria, but the method actually has far more than a few and some of the criteria require the use of technical analyses which are often qualitative. These non-quantitative analyses require in-depth knowledge on investment and a professional judgment as well to properly interpret what is suggested in O'Neil's various editions of the CAN SLIM book. In this section, CAN SLIM will be critically evaluated from the perspective of ordinary investors and a simplified version will be introduced based on the criticisms.

3.1. Critiques on CAN SLIM

First, CAN SLIM allows the investors to make a choice out of multiple guidelines. For example, O'Neil suggests several cut-off percentages in his buying set for stocks with quarterly earnings increases: 18 %, 20%, 25%, and 30%. Hence, the investment result will depend on the degree of investors' investment experiences and could produce a large variance in investment outcome. In our simplified version, we will use 18% which is believed to be the O'Neil's bare minimum selection condition without bells and whistles.

Second, O'Neil provides some qualitative guidelines, such as the market's follow-through: "After the market does top out, it *typically* will rally feebly and then fail. *For instance*, after the first day's rebound, the second day will open strongly, but toward the end of the session the market will suddenly close down. The abrupt failure of the market to follow through on its first recovery attempt should *probably* be met by further selling on your part." (O'Neil 2011, 210-211: *Italic* added) The stock market, however, does not move in a *typically* or *probably* expected fashion, and final interpretation of these words will be up to the investors. Therefore, in our simplified CAN SLIM criterion in this study, we did not include his suggestions on predicting the future movement of stock market. Basically, we excluded the qualifiers, such as "*typically*," "*for instance*" or "*probably*" Nevertheless, to accommodate O'Neil's insights on the market direction, we employed simplified stop loss orders which will be described later.

In most cases, even with O'Neil's well advertised market indicators, there is a good chance that many of his subscribers will have missed the market turning points. In fact, O'Neil uses the word "astute" in describing a CAN SLIM investor's ability to pick up the right signal on a market turn from his Investor's Business Daily. Hence, even with his suggestions on market direction, false signals or false interpretation on market direction can affect the investors' performance.

Third, a careful reading of his book reveals that CAN SLIM entails an investor's ability to read technical charts and interpret qualitative information, and this ability can substantially contribute to the higher investment returns from the successful use of the investment method. In particular, O'Neil suggests the use of technical charts to find market tops and bottoms. Bulkowski's back-tested statistics on technical charts, however, indicate that the technical charts suggested by O'Neil will produce the expected outcome only in certain cases Bulkowski (2000;

114

2005). In his initial work, Bulkowski (2000) uses only 500 companies for the study years of 1991 to 1996. Even with such a small sample size and a limited study period, which was primarily a bull market in general, none of the chart patterns that he back-tested provided the perfect prediction. Because of this obvious uncertainty in the technical charts suggested by O'Neil, the inclusion of the chart patterns can introduce conflicting results of the performance.

3.2 A Simplified Version of CAN SLIM

Considering the above criticisms, we used the following three basic principles in developing a simplified version of CAN SLIM for the purpose of this paper:

1. Only quantifiable variables were included in the simplified version. We did not use non-quantifiable selection criteria in this study.

2. When a range of possible numbers are give as a choice in CAN SLIM, we used a specific number that deemed reasonable for the ordinary investors.

3. Some of data used in O'Neil's CAN SLIM require proprietary data and sometimes commercial data which are very expensive to obtain for the ordinary investors. In those cases, we used proxy variables which are readily available to the ordinary investors.

Based on these three principles and pursuing the third edition of O'Neil's CAN SLIM's book, the following seven sets of conditions were developed as the proposed simplified CAN SLIM selection criteria:

(**C**) EPSQ (t) > EPSQ (t-1) x 1.18 where EPSQ = quarterly earnings per share; t is the current quarter and t-1 is a year earlier in the same quarter. We used Portfolio123's Wizard rule that quarterly EPS grows more than 18%. This condition is for CAN SLIM's C: Current quarterly earnings per share.

(**A**) EPSA (t) > EPSA (t-1) x 1.25 and EPSA (t-1) > EPSA (t-2) x 1.25 and EPSA (t-2) > EPSA (t-3) x 1.25 where EPSA = annual earnings per share; t, t-1, t-2, t-3 are the current year, a year earlier, two years earlier, and three years earlier. We also looked O'Neil's condition that ROEA (t) > ROEA (t-1) x1.17 where ROEA = annual return on common equity; t and t-1 are the current year and a year earlier. We used

Portfolio123's Free Form and Wizard rules to satisfy these two conditions. These conditions are for CAN SLIM's A: Annual earnings increase.

(**N**) P (t) > Max (P (t-1), P (t-250)) where P is the stock price; t, t-1 and t-250 are today, yesterday, and a year early; Max (P(t-1), P(t-250)) is the highest stock price over a year. For this condition, we used Portfolio123's Free Form rule that the distance between current stock price and 12-month high ranked in top 90%. This condition is for CAN SLIM's N: New product, new management, and new highs.

(**S**) V (t) > SVA (t-1, t-250) x 1.5 where V = volume of stock transactions; t, t-1 and t-250 are today, yesterday, and a year early; SVA = simple volume average of stock volume over a year. For this condition, we used Portfolio123's Wizard rule that 5-day volume average was 50% more than 20-day volume average. This condition is for CAN SLIM's S: Supply and demand.

(**L**) RS (t) >= 80%, where RS = relative strength over S & P 500 over a quarter; t is today. O'Neil uses his own proprietary system in computing RS. In this paper, we used the method suggested by Gartley (1945), which was also discussed by Carr (2010) on the stock investing method, using RS. Since O'Neil's RS computational method is not in the public domain and the relative strength is similar in nature, we used Portfolio123's Free Form rule that stock price percentage gain for the last 240 trading days ranked in top 80%. This condition is for CAN SLIM's L: Leader or laggard.

(**I**): For institutional ownership, we use Portfolio123's Wizard rule that institutional ownership is less than 35% of the outstanding shares. This condition is for CAN SLIM's I: Institutions.

(**M**) For the stock market sentiment, we used Portfolio123's Wizard rule that the short interest was greater than 1. High short interest normally means that there is sell pressure and stock market is topping out. This condition is for CAN SLIM's M: Market direction.

These seven investment conditions are summarized in Exhibit 1. If the investment made using these simplified conditions can beat the market, ordinary investors can then benefit from using them. It would be also interesting to see how this simplified version performs in the market comparing to the original O'Neil's version.

Note that the first two criteria are based on a simple form of earnings information in making investment decisions. Since Ball and Brown (1968) did a study on the information content on earnings, many studies have shown that earnings information has information value for the investors (e.g., Collins, et al., 1997; Ely and Waymire, 1996; Ohlson, 1995). Recently, Jang, et al. (2010) investigated, using a sample of 142 firms listed in the Korean Stock Exchange during 20 years, the issues of whether the value relevance of book value and earnings shows any systematic trends over time, and what factors affect the value relevance of book value and earnings. They have found that the overall value relevance of both book value and earnings has increased over the 20-year period. Another interesting study was done by Lee and Huh (2010) to examine the firm's level of financial leverage as an additional contributing factor to the cross-sectional variation in the value relevance of earnings and equity book value. The results have shown that value relevance of equity book value (earnings) is larger for high-leverage firms than for low-leverage firms. Hence, it is expected that these two simple criteria are relevant in making investment decisions by ordinary investors.

Insert Exhibit 1

----

4. Analyses and Findings

Each condition in Exhibit 1was then tested incrementally as the order presented, using weekly rebalancing frequency data which are commercially available in the backtesting application from Portfolio123.com. Reuters.com (Reuters 2012) provides data for Portfolio123's backtesting. Once appropriate parameters are determined by researchers, Portfolio123 rebalances stocks in a study portfolio and compares its returns with the returns of a benchmark stock market index. In this study, we chose a study period from January 29, 2011 to February 2, 2012, and used S & P 500 as our benchmark stock market index. We used all stocks in Portfolio123's sample data as our potentially available data sample

117

supplied by Reuters; however, among them, we excluded least liquid stocks and closed-end funds. Portfolio123 weekly rebalances our portfolio based on our investment selection criteria. When stocks satisfy the conditions shown in Exhibit 1, Portfolio123 selects and retains the stocks if the stock continually satisfies the selection criteria for a portfolio to be screened in the next rebalancing cycle.

In total, seven investment strategies were tested incrementally. For example, as the first strategy, we applied Condition (C) in selecting stocks: the stocks whose earnings had grown more than 18% for one year. As shown in Exhibit 2, this strategy alone produced the average return of .14% when the return of our S&P500 benchmark index had .11% during the same period. In the second strategy, Condition (A) was added to Condition (C) to create a new Condition (CA), and the total return increased to .29%. Interestingly, adding additional Conditions (S) and (L) generated negative total returns of -.20% and -.15%, and adding additional Condition (I) generated the best total return of .37% among the seven investment strategies. Finally, the simplified CAN SLIM proposed in this study, as being represented by Condition (CAN SLIM), generated the return of .19%, beating the market. The excess return over S&P500 was .08% during the study period. Based on these results, it is clear that Condition (CAN SLI) is the best investment strategy for the investors, expecting .37% of total return during the study period.

In terms of marginal returns as shown in Exhibit 2, Condition (A) contributed 15%, and Condition (N) contributed -.10%. A large negative contribution was made by Condition (S) as much as -.39%, followed a small positive contribution of .05% by Condition (L). To our surprise, the marginal return of Condition (I) was .52% which made Condition (CAN SLI) to be the best strategy in this study. Adding the final Condition (M) generated a negative contribution again as much as -.18%.

Insert Exhibit 2

The graph in Panel A of Exhibit 3 shows how the investment Condition (CAN SLIM) of the simplified version performed against S & P 500 with weekly rebalancing. The upper line in the graph represents the portfolio performance of the incremental investment Condition (CAN SLIM), whereas the lower line S & P 500 for the study period. It is clear that the simplified CAN SLIM constantly beat S & P 500 during the study period. Panels B and C display how well the simplified version performs relative to S&P 500 in detail for individual portfolios, and also overall performance averages for all portfolios. In Panel B, it should be noted that results of each portfolio formed along the time line of the study period are displayed reverse-chronically. That means, the screening of the Portfolio 1 was dated as January 29, 2011 as shown at the bottom of Panel B. On that day, Portfolio123 selected stocks that satisfied the conditions laid out in Exhibit 1 and retained them for a week until the second screen date came, which was February 5, 2011. The last screening date was January 28, 2012, and the portfolio selected on that date was numbered 53. Panel B also shows how many stocks were held in each portfolio, how many new stocks were added, and how many stocks were dropped during the rebalancing cycle. As was shown in the last row of Exhibit 2, the second row of Panel C exhibits that the investment return of .19% from the simplified version of CAN SLIM exceeded the S&P 500 return of .11%.

Insert Exhibit 3

----

5. **Additional Considerations**

In the finance literature, many studies have well documented the factors affecting abnormal returns. Among them, four factors have been incorporated in the context of our study as described briefly in this section.

5.1. Frequent Rebalancing

We rebalanced our portfolio weekly, using Portfolio123, on a timely basis. Thus, our results would be more in line with actual trading in the real world. Previous studies used annual, quarterly, or monthly rebalancing methods.

5.2. January Effect

Investors' January effect is well-documented in the academic literature. For tax purposes, institutional money managers tend to sell losing stocks before the end of a calendar year and repurchase them in January. This practice tends to reduce the prices of stocks during the last half of December and then increase them at the beginning of the following year. This issue may be less relevant to frequent rebalancing strategies, such as the simplified CAN SLIM.

5.3. Risk Adjustment

Academic research shows that the riskiness of a firm affects investment returns. Riskier stocks tend to bring larger gains, despite higher volatility, whereas lower risk stocks tend to bring smaller gains, although this class of stocks tends to be stable. Thus, comparing simple returns may not reveal the true picture. To control the riskiness effect, we formed portfolios that are more stable than S&P 500. That is, the stock volatility in the portfolios tested in the simplified CAN SLIM were less than 90% of the S&P 500 volatility.

5.4. Bull and Bear Markets, Stop-Loss Orders, and Short Interest

It is known that each investment approach works better under a certain market condition. (Cheh et al. 2008) To incorporate the market condition in making investment decisions, O'Neil suggests using stop loss orders based on the daily market average. The 8% stop-loss is what O'Neil advocates. In choppy stock markets, investors who are using stop loss cut-off rates may end up losing good performing stocks because the stock market is highly volatile and good stocks often bounce back after their prices drop. Since we were testing a simplified version of CAN SLIM for ordinary investors, we decided to do a

simple adjustment of weekly rebalancing so that stop-loss activities were internally taken care of. During the rebalancing process, the positions of stocks with significant price drops were eliminated automatically due to Condition (N) and Condition (L) of the simplified CAN SLIM.

One piece of advice that O'Neil provides to the subscribers of his Investor's Business Daily is that not only the investors are encouraged to buy stocks at high price, but also cut losses short by using the stop-loss orders. This investment advice is counter-intuitive because the investors typically prefer to buy stocks at a bargain price as advocated by many investing gurus. Investing gurus advocate a buy-and-hold strategy for a long-term (Siegel, 1994), not encouraging cutting short in a moment when any weakness appears in the stock price. The advantage of this cutting short approach is that the investors can minimize their losses at the first sign of weaknesses in their holdings, if the small losses turn into far larger losses. On the other hand, by selling too early, the investors may lose valuable opportunities to recoup their small paper losses, in case the stock price moves up later. Furthermore, by accumulating many of these transactions of buying stocks at high prices and selling immediately at the first sign of weaknesses, the investor may run out of their capital sooner or later, as such small losses accumulate. To better understand this issue, initially, we kept stocks that satisfied our simplified CAN SLIM criteria, but sold stocks that violated any of the seven criteria. We added short interest condition as a proxy condition for the bull and bear market indicator. Overextended bull markets provide greater opportunities for short sellers than bear markets. Nevertheless, we used a modest short interest condition.

6. Conclusion

Even though O'Neil's CAN SLIM promises significant abnormal returns, following a whole array of technical indicators requires an expertly trained pair of eyes.

In this study, we avoided all of the bells, whistles, and subjective interpretations of O'Neil's CAN SLIM investment method and proposed a simplified and modified version of CAN SLIM in selecting stocks based on three basic principles. The simplified version was tested, and we have found that the results are

very promising. Ordinary investors who have a limited access to data and limited time to read technical charts and interpret qualitative information can blindly follow the seven simplified conditions and still will be able to beat the market.

To draw any meaningful conclusion, however, more comprehensive studies should be done in the future. First of all, a study period should be extended to examine stock returns under various market conditions in the past. Testing different combinations of the seven simplified conditions incrementally may also produce significantly different results. Second, the seven simplified conditions can be more simplified and/or modified and tested to see the results. Finally, O'Neil suggests to use somewhat complicated buy and sell rules, and testing these rules under each condition may be worthwhile, but is beyond the scope of this research. Eventually, it is hoped that an optimal investment strategy will emerge so that ordinary investors will be able to manage their own investment portfolios.

References

Ball, R. and P. Brown. 1968. An Empirical Evaluation of Accounting Income Numbers. *Journal of Accounting Research*, 159-178.

Basu, Sanjoy. 1977. Investment Performance of Common Stocks in Relation to Their Price-Earnings Ratios: A test of the Efficient Markets Hypothesis. *Journal of Finance* 32, 663-682.

Benson, Karen. L., David R. Gallagher, and Patrick Teodorowski. 2007. Momentum investing and the asset allocation decision. *Accounting and Finance* 47: 571-598.

Bulkowski, Thomas N. 2005. *Encyclopedia of Chart Patterns*. 2nd Edition. Wiley.

_____. 2000. *Encyclopedia of Chart Patterns*. Wiley.

Carr, Michael. 2010. Buy high and sell low with relative strength. Available at: http://www.investopedia.com/articles/trading/08/relative-strength.asp.

Cheh, John. J., Doseong Kim, and Guangxi Zheng. 2008. Investing in Growth Stocks vs. Value Stocks: Does Trading Frequency Matter? *The Journal of Investing* 17 (2), 75-92.

Collins, D. W., E. L. Maydew, and I. S. Weiss. 2997. Changes in the Value-relevance of Earnings and Book Values over the Past Forty Years. *Journal of Accounting and Economics*, 39-67.

Ely, K. and G. Waymire. 1996. Accounting Standard-Setting Organizations and Earnings

Relevance: Longitudinal Evidence from NYSE Common Stocks, 1927-93. *Journal of*

Accounting Research, 293-317.

Fama, Eugene. 1970. Capital Markets: A Review of Theory and Empirical Work.
Journal of Finance (May) Vol. 25 No. 2, 383-417.

Fama, E and French K. 1992. The Cross-Section of Expected Stock Returns. *Journal of*
Finance 47, 427-465.

George, Thomas J., and Chuan-Yang Hwang. 2004. The 52-Week High and Momentum
Investing. *Journal of Finance* LIX (5) (October): 193-223.

Jang, Jee In, Kyung Joo Lee, and Hye Jung Jung, 2010. Inter-temporal and Cross-sectional Variations in
the Value Relevance of Earnings and Equity Book Value for Korean Firms. *Pan-Pacific Journal of*
Business Research (Volume 1, Number 1), 4-15.

Lee, Kyung Joo and Sung-Kyoo Huh. 2010. Firm's Financial Leverage and Its Impact on Differential
Roles of Earnings and Book Value for Equity Valuation. *Pan-Pacific Journal of Business Research*
(Volume 1, Number 1), 16-28.

Nicholson, Francis. 1968. Price-Earnings Ratios in Relation to Investment Results.

Financial Analysts Journal (Jan/Feb). 105-109.

Ohlson, J. 1995. Earnings, Book Values and Dividends in Equity Valuation. *Contemporary Accounting*
Research, 661-687.

O'Neil, William J. 2011. *The How to Make Money in Stocks Complete Investing System:*
Your Ultimate Guide to Winning in Good Times and Bad, 3rd Edition. New York, New
York: McGraw-Hill.

Investor's Business Daily. 2010. Available at http://www.investors.com/Press%20Release-CAN%20SLIM%20January%202010_Final.pdf.cms.

Portfolio123. 2012. Available at

http://www.stockscreen123.com/index.jspReuters 2012. http://www.reuters.com/.

Rosenberg Barr, Reid Kenneth, and Lanstein Ronald. 1985. Persuasive Evidence of Market Inefficiency. *Journal of Portfolio Management* 13, 9-17.

Siegel, Jeremy J. 1994. *Stocks for the Long Run*, *The Definitive Guide to Financial Market Returns and Long-term Investment Strategies*. Burr Ridge, Illinois: Irwin Professional Publishing.

Tversky, Amos and Daniel Kahneman. 1974. Judgment under Uncertainty:

Heuristics and Biases. *Science,* 1124-1131.

Exhibit 1

Backtesting the Seven Conditions

Note: This table was generated using Portfolio123.com.

Exhibit 2

Returns on the Seven Conditions

Incremental Investment Conditions	Total Return (%)	Marginal Return (%)	S&P500 Index Return (%)	Excess Return (%)
C	.14	.14	.11	.03
CA	.29	.15	.11	.18
CAN	.19	-.10	.11	.08
CAN S	-.20	-.39	.11	-.31
CAN SL	-.15	.05	.11	-.27
CAN SLI	.37	.52	.11	.26
CAN SLIM	.19	-.18	.11	.08

Exhibit 3

Return Behavior

Panel A: Backtest Parameters and Results in a Graphical Format
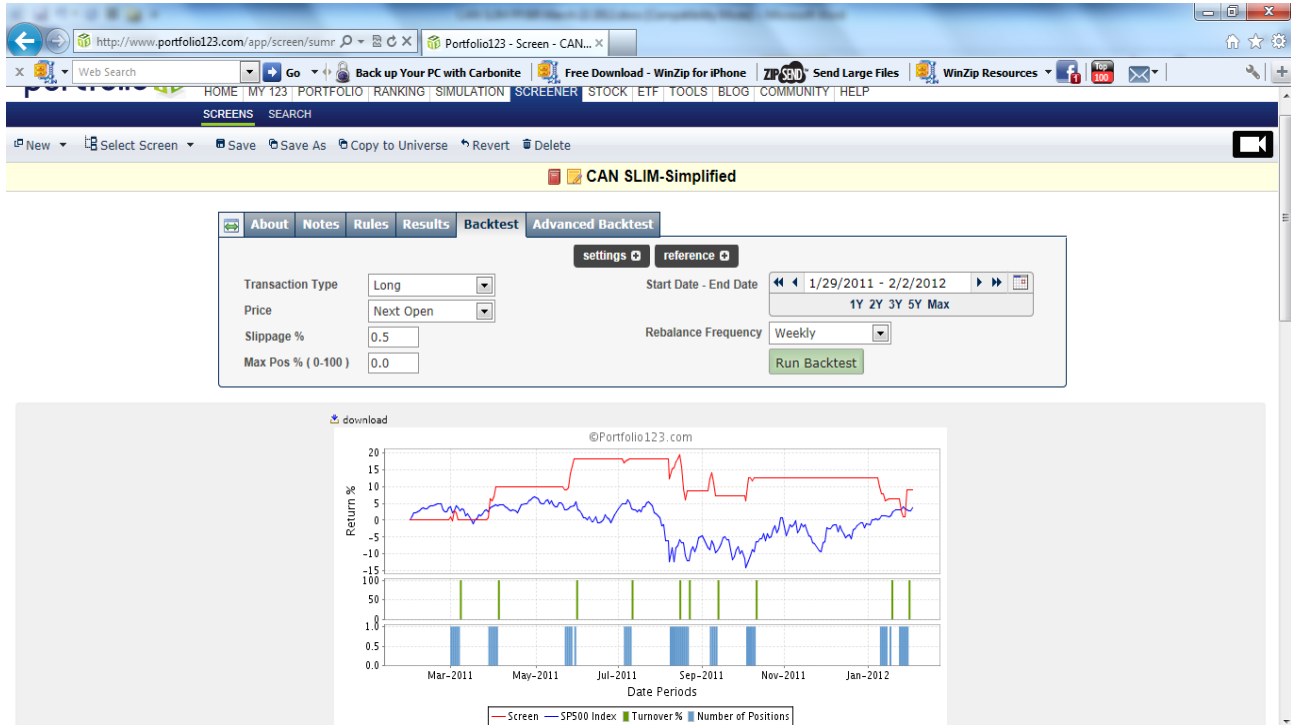
Note: This graph was generated using Portfolio123.com.

Panel B: Backtest Results for Individual Portfolios

Portfolio Number	Screen Date	Price Start	Price End	Number of Positions	New Positions	Sold Positions	Average Return (%)	S&P 500 Return (%)	Excess Return (%)
53	1/28/2012	30-Jan	2-Feb	0	0	1	0	0.6139	-0.6139
52	1/21/2012	23-Jan	30-Jan	1	1	0	2.5256	0.0661	2.4595
51	1/14/2012	17-Jan	23-Jan	0	0	1	0	1.9431	-1.9431
50	1/7/2012	9-Jan	17-Jan	1	1	0	-5.555	0.9696	-6.5246
49	12/31/2011	3-Jan	9-Jan	0	0	0	0	1.5069	-1.5069
48	12/24/2011	27-Dec	3-Jan	0	0	0	0	-0.487	0.487
47	12/17/2011	19-Dec	27-Dec	0	0	0	0	3.7123	-3.7123
46	12/10/2011	12-Dec	19-Dec	0	0	0	0	-2.8134	2.8134
45	12/3/2011	5-Dec	12-Dec	0	0	0	0	0.8615	-0.8615
44	11/26/2011	28-Nov	5-Dec	0	0	0	0	7.3929	-7.3929
43	11/19/2011	21-Nov	28-Nov	0	0	0	0	-4.6848	4.6848
42	11/12/2011	14-Nov	21-Nov	0	0	0	0	-3.8161	3.8161
41	11/5/2011	7-Nov	14-Nov	0	0	0	0	0.849	-0.849
40	10/29/2011	31-Oct	7-Nov	0	0	0	0	-2.4709	2.4709
39	10/22/2011	24-Oct	31-Oct	0	0	0	0	3.7329	-3.7329
38	10/15/2011	17-Oct	24-Oct	0	0	0	0	1.1638	-1.1638
37	10/8/2011	10-Oct	17-Oct	0	0	1	0	5.7264	-5.7264
36	10/1/2011	3-Oct	10-Oct	1	1	0	4.8879	2.3815	2.5064
35	9/24/2011	26-Sep	3-Oct	0	0	0	0	-0.5014	0.5014
34	9/17/2011	19-Sep	26-Sep	0	0	0	0	-6.4264	6.4264
33	9/10/2011	12-Sep	19-Sep	0	0	1	0	5.3307	-5.3307
32	9/3/2011	6-Sep	12-Sep	1	1	0	-1.1764	-1.7437	0.5672
31	8/27/2011	29-Aug	6-Sep	0	0	0	0	-0.3345	0.3345
30	8/20/2011	22-Aug	29-Aug	0	0	1	0	4.8382	-4.8382
29	8/13/2011	15-Aug	22-Aug	1	1	1	-8.138	-4.6918	-3.4461

28	8/6/2011	8-Aug	15-Aug	1	1	0	0.1472	-1.6371	1.7842
27	7/30/2011	1-Aug	8-Aug	0	0	0	0	-7.2807	7.2807
26	7/23/2011	25-Jul	1-Aug	0	0	0	0	-3.848	3.848
25	7/16/2011	18-Jul	25-Jul	0	0	0	0	2.1566	-2.1566
24	7/9/2011	11-Jul	18-Jul	0	0	1	0	-2.0375	2.0375
23	7/2/2011	5-Jul	11-Jul	1	1	0	-0.1796	0.2777	-0.4573
22	6/25/2011	27-Jun	5-Jul	0	0	0	0	5.6093	-5.6093
21	6/18/2011	20-Jun	27-Jun	0	0	0	0	-0.2407	0.2407
20	6/11/2011	13-Jun	20-Jun	0	0	0	0	0.0149	-0.0149
19	6/4/2011	6-Jun	13-Jun	0	0	0	0	-2.2265	2.2265
18	5/28/2011	31-May	6-Jun	0	0	1	0	-2.3169	2.3169
17	5/21/2011	23-May	31-May	1	1	0	7.6432	-0.1478	7.791
16	5/14/2011	16-May	23-May	0	0	0	0	-0.1274	0.1274
15	5/7/2011	9-May	16-May	0	0	0	0	-0.4052	0.4052
14	4/30/2011	2-May	9-May	0	0	0	0	-1.8319	1.8319
13	4/23/2011	25-Apr	2-May	0	0	0	0	2.0992	-2.0992
12	4/16/2011	18-Apr	25-Apr	0	0	0	0	1.8114	-1.8114
11	4/9/2011	11-Apr	18-Apr	0	0	0	0	-1.1783	1.1783
10	4/2/2011	4-Apr	11-Apr	0	0	1	0	-0.3412	0.3412
9	3/26/2011	28-Mar	4-Apr	1	1	0	9.6033	1.3767	8.2266
8	3/19/2011	21-Mar	28-Mar	0	0	0	0	2.6372	-2.6372
7	3/12/2011	14-Mar	21-Mar	0	0	0	0	-1.5017	1.5017
6	3/5/2011	7-Mar	14-Mar	0	0	1	0	-1.6277	1.6277
5	2/26/2011	28-Feb	7-Mar	1	1	0	0.214	0.084	0.1301
4	2/19/2011	22-Feb	28-Feb	0	0	0	0	-1.2921	1.2921
3	2/12/2011	14-Feb	22-Feb	0	0	0	0	0.7661	-0.7661
2	2/5/2011	7-Feb	14-Feb	0	0	0	0	1.2867	-1.2867
1	1/29/2011	31-Jan	7-Feb	0	0	0	0	2.7693	-2.7693

Panel C: Backtest Results for Overall Statistics

Overall	Number of Up or Down Markets	Average Return (%)	S&P500 Return (%)	Excess Return (%)
Average		0.19	0.11	0.08
Up Markets	27	0.43	2.3	-1.87
Down Markets	26	-0.06	-2.15	2.1