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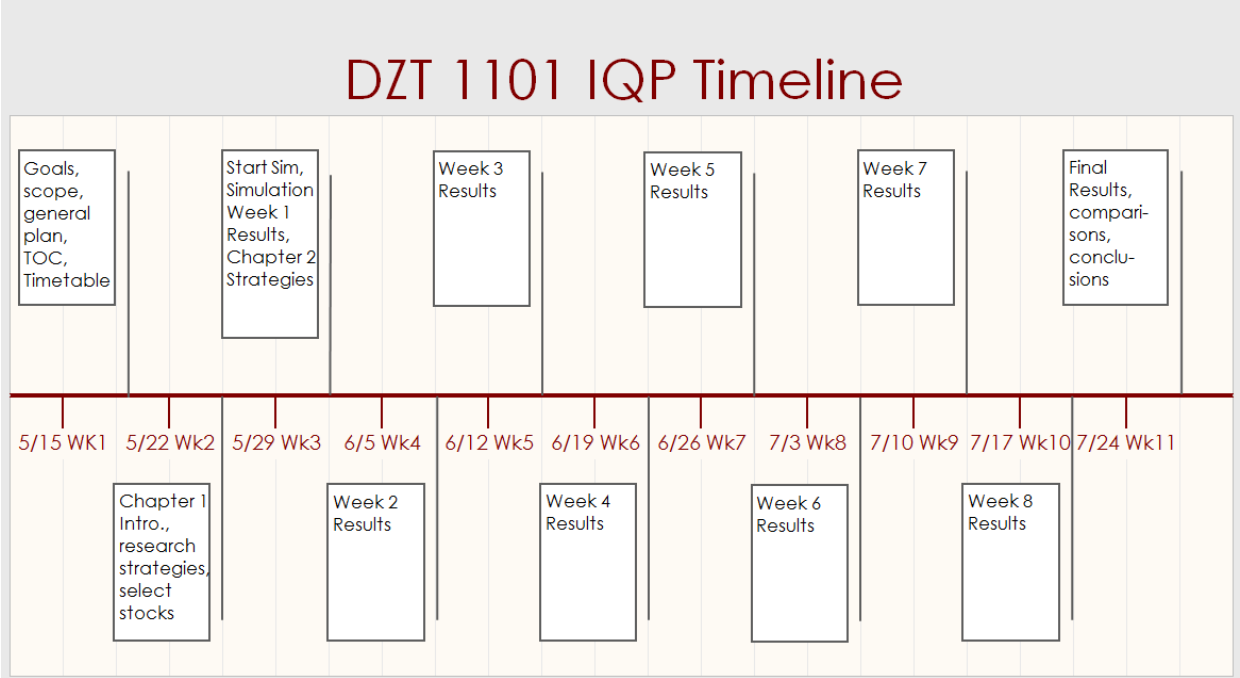
Abstract

The goal of this IQP was to study the stock market as it exists in the present day and to become familiar with the different strategies presently used in the stock market while conducting a nine week simulation. The strategies chosen were Swing Trading, the Average True Range (ATR) method of Trend Following, and the Simple Moving Averages (SMA) method of trend following. At the end of the simulation, the results were compared and analyzed to determine the most profitable method as well as to compare and contrast the strengths and weaknesses of each method.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Chapter 1: Introduction

1.1 Project Goals

This project has two primary goals. The first is to study the stock market as it exists today with the different trading strategies that are currently in use in the market. Over time some strategies have fallen out of use. With the increase in the technology available to traders and analysts, the dynamics of the market have shifted and this has resulted in newer strategies as well as making some strategies obsolescent.

The second goal is to become familiar with trading through the execution of a stock market trading simulation lasting approximately 9 weeks. This simulation will encompass several of the strategies studied here and their implementations. Each week I will follow the stocks chosen for each strategy and make the appropriate decisions for trading based on the applicable strategy being used.

1.2 Today's Stock Market

A stock market is the business of buying and selling stock in companies. The earliest physical form of the stock market in the United States was established by 24 bankers and merchants in May of 1792. These 24 businessmen formed the New York Stock Exchange. The effects of technology on the stock market can be traced through time. In the beginning, all trading was done in person either by the investor or his agent at the NYSE. In November 1867 the stock tickers were introduced. The following list presents a chronological listing of the major technological advances in the market:

- In 1878 the first telephones were installed in the exchange.
- In 1881 the first electric annunciator board was installed.
- In October 1928 a new central quotation system for reporting bid and asked quotations went into use.
- In 1930 a new high speed ticker was put into use.
- In 1964 a new high speed ticker capable of 900 characters per minute was placed in use.

- In 1965 a fully automated quotation service was introduced and an Electronic Systems Center was created.
- In 1966 the transmission of trade and quote data from the Floor was fully automated.
- January, 1976, a new high-speed data line began transmitting market data at up to 36k characters per minute.
- In September of 1995, the auction process used on the floor of the exchange moved to wireless hand held computers.
- 2001, all stocks traded in decimals, ending the practice of trading fractions.
- As of January 24, 2007, all NYSE stocks could be traded electronically.

This steady progression of technological upgrades to the markets has culminated in the high speed, interconnected, networked system that is now in place. This system offers a thoroughly integrated network across the internet as well as almost instantaneous updates across that network. The high level of interconnectivity and speed has led to changes in some of the trading strategies in use today. These strategies are discussed in more detail in Chapter 2.

1.2.1 Short Selling

Short selling of a stock is the selling of stock that the seller doesn't own. The stock comes from the seller's Broker, the Broker's other customer's, or from another Broker. The stock is sold off and the money is deposited in the seller's account. After some amount of time the seller has to buy back the same number of shares and return them to the lender, this is known as *covering*. If the price has gone down at the time the seller has to cover, then the seller gains the difference. If the price has gone up, then the seller is covering at a higher price and losses the difference.

The time period that the shorted stock can be held is normally as long as the seller wants. However, the lender does have the option of requesting the stock back, this is termed *called away*. Also, if the short was obtained on a margin account, the seller is most likely paying interest on the account.

The SEC has placed many restrictions on short sales in an effort to prevent their abuses and the detrimental effect that it would have on the market as a whole. In 2005 the SEC implemented rules known as "Regulation SHO" that required sellers to show that they could obtain the shares required to cover before the short sale could occur. In 2007 the SEC eliminated the "Uptick Rule" that caused all short sales to be at a higher price than the previous trade. This had been in place to prevent short sales from contributing to the downward trend of a stock. In 2008 the SEC had to implement a set of rules to halt short sales in over 800 companies after the government began its $700 Billion bailout plan.

There are a multitude of strategies and methods used for picking short stocks. One indicator that is fairly specific to short sales is the short interest. Short interest is the total number of shares of a stock that are held short and is typically represented as a percentage of the total outstanding shares. Investors normally interpret this indicator as the higher the percentage, the more likely a downturn will happen.

1.3 Project Notations and Terminology

Investors and analysts have developed their own specific jargon and vocabulary to discuss the different aspects of the stock market and company financials. This section lists some of the terms and notations used in the report along with their definitions.

Average Directional Index (ADX) – the ADX measures the strength of a trend without regard to its direction.

Average True Range (ATR) – ATR was developed by J. Welles Wilder [1]. This is an average value normally taken over 14 periods that shows the volatility of a measured indicator. This is based on True Range values and is given by the following formula:

$$\text{Current } \mathbf{ATR} = [(\text{Prior ATR} \times 13) + \text{Current TR}] / 14$$

Bearish – a market or security that is headed downward.

Bullish – a market or security that is headed upward.

Exponential Moving Average (EMA) – the exponential moving average differs from the SMA in the way that the individual prices are weighted. In the SMA calculation, all prices are weighted equally. An EMA reduces the lag of the moving average by giving more weight to recent values. This is done by first calculating the exponent. This is done by dividing two by the number of periods desired plus one. For example, the exponent for a 30 day EMA would be 2/(30+1) = 0.0645. A starting point for the EMA needs to be calculated from the SMA. To calculate the EMA for today, the SMA for yesterday must first be calculated and used for the first EMA. This substitution of the SMA is only necessary for the first EMA as the previous day's EMA will be available following that day. The equation is given as:

Relative Strength Index (RSI) – an indicator that measures the rate of change of price movements. It oscillates between values of 0 and 100. General guidelines consider a stock to be overbought when the RSI is above 70 and oversold when below 30. The value has a period associated with it. This period is used in the calculations of the average gain and loss used. The calculation of RSI is shown below:

$$RSI = \frac{100}{1+RS}$$

$$RS = \ average\ gain/average\ loss$$

Resistance Level – the price level that the stock or market rises to, but doesn't pass. This is the point at which the selling is strong enough to counter the buying and prevent the price from rising any further.

Simple Moving Average – (SMA) – the simple moving average is calculated by adding all of the closing prices for a set number of periods and then dividing the total by this number of periods.

Support Level – support level is the price level at which demand is strong enough to prevent the price from decreasing any further. This is a point where it is thought that more buyers tend to enter the stock as it is decreasing, thereby preventing the price from falling any more.

Today's EMA = (current day's closing price x exponent) + (previous day's EMA x (1-exponent))

Trading Range – The distance between a stock's high and low price for a given period. In swing trading the term "trading range" is used to describe the stock price movement oscillating between support and resistance levels and to differentiate this from a "trend".

True Range – The true range of a stock price is the largest of the three following values:

a. Current high minus the current low

b. The absolute value of the current high minus the previous close.

c. The absolute value of the current low minus the previous close.

Williams %R – a momentum indicator that reflects the closing price to the highest high in the period desired. The scale of Williams %R is from 0 to -100 with 0 to -20 indicating an overbought condition and -80 to -100 indicating an oversold condition. The calculation follows:

%R = (highest high – close price)/(highest high – lowest low) * (-100)

1.3.1 Candlestick Charts

Candlestick charts are a type of bar chart where each bar represents the range of price movement over a given range of time. Candlesticks are normally composed of a colored body and upper and lower shadows. The color of the body is normally used to denote whether the range depicted by the body closed up or down for the time interval. A typical convention is to use black and white. If the security closed higher than it opened, then the body is white. If the security closed lower than it opened, then the body is colored black. The top and bottom of the body signify the opening and closing prices. The upper and lower shadows show the highest and lowest prices that the security traded during that time interval.

1.3.2 Common Candlestick Patterns

Engulfing – a pattern of two candlesticks. The most recent large body candlestick "engulfs" the previous short body candlestick of the opposite color. When the engulfing large body is white and the previous short body is black and this occurs at the bottom of a trend, then this is considered a major reversal signal. Conversely, when the large body is black, the previous candle is white, and this occurs at the top of a trend, this is also considered a major reversal signal.

Hammer – The basic hammer is a candlestick that has a small black or white body near the high with little or no upper shadow. It is considered a bullish indicator when it occurs during a downtrend. The following is a description of some variations of the hammer:

Hanging Man- this is a hammer with no upper shadow and a lower shadow 2-3 times the height of the body. When this occurs during an uptrend it is considered bearish.

Inverted Hammer – this is a black or white upside down hammer. When it occurs in a downtrend it is considered a reversal signal that needs a next-day confirmation.

Harami – this is a reversal of the engulfing pattern. The small body candle is the most recent and is preceded by a large body candle of the opposite color that has a high and low which engulf the smaller candle. This is a bearish indicator if it happens on an uptrend with a large white body followed by a small black body. It is a bullish indicator if the preceding large body is black followed by a small body white at the bottom of a downtrend.

Doji – the opening and closing price are almost the same creating close to a single line. The upper and lower shadow lengths may vary. This is a sign of indecision by the investors with neither the sellers nor buyers being able to take control. Several variations are described below:

Long Legged Doji – this is a Doji with very long upper and lower shadows. It normally signals a reversal when it happens at the top of an uptrend.

Dragon Fly Doji – this is formed by the opening and closing occurring at the top of the range so that there is no upper shadow. This is considered a reversal signal when it occurs at the bottom of a downtrend.

Gravestone Doji – this is formed by the opening and closing occurring at the bottom of the range so that there is no lower shadow. This is considered a reversal signal when it occurs at the top of an uptrend.

1.4 Project Simulation Plan

The scope of the project will encompass stocks traded on any of the major Stock Exchanges. Due to the complex nature of the financial industry and the limited time available for the project, items such as bonds, securities, cash trading, etc. will not be included. Short and long trades will be included but only on a cash account; no margin accounts will be involved.

The Stock Market simulation will be run in several separate parts each using a different strategy and each using a fictitious amount of $100,000.00 to begin. Real world stocks will be chosen and real world data will be used for the entire simulation. Each trade will be assessed a commission of $9.95. All trades will be accomplished at 9:50am the day after identifying a need for a trade. The strategies chosen will be implemented throughout the 9 week simulation and the week-to-week progress will be documented. The documentation will also include major factors affecting the markets and periodic comparisons of the methods when appropriate. At the end of the simulation, the results and comparisons will be offered along with any lessons learned throughout the project.

1.4.1 Stock Scans

With almost 9000 stocks available on the different United States markets it would be impossible to check the performance of each one against a list of performance criteria each day without some type of automated help. The ability to scan stocks for a list of configurable criteria is offered by most large Broker and charting websites.

StockCharts.com was selected for this project due to the degree of configurability they offer in their charts as well as their scans. The full range of configurable attributes is available after opening an account on the website. Charts can be configured for duration, period, size, colors, and all of the indicators mentioned in this report plus many more that are available in the investment world. By using their scan building scripts, a scan can be built on specific parameters and saved to quickly run at later times. A sample chart of Intel Corporation is shown below in Figure 1. This chart was generated using a 10 day SMA, 30 day EMA, 200 day SMA, Volume, ADX, and Williams %R.

Figure 1 Intel Corp. stock chart

Chapter 2: Stock Market Investment Strategies

This chapter provides a high level description of the most common stock market strategies in use today. Each of the strategies mentioned may have more than one variation, and some, such as Trend Following, have multiple variations on the strategy. This is due in part to the Trader's constant drive to find a more concrete way to predict a constantly changing system and also in part to the technological advances that make new forms of data compilation and referencing readily available to all Traders.

2.1 Algorithmic Trading

Algorithmic trading is a system of trading that uses computers to calculate aspects of large orders according to mathematical algorithms in order to limit the impact on the cost of the stock and the market. The computers are often then used to conduct the trades much faster than a normal broker ever could. This type of system is generally used by large institutional buyers as a way of preventing the large amount of shares that they buy from adversely affecting the stock's price.

2.2 Buy and Hold Trading

The buy-and-hold strategy involves entering an investment and holding it for a long term, ignoring the volatility of the investment that may cause short duration price fluctuations. The basis for the success of this type of trading is the belief that the market will improve over long periods of time. The time period to hold the stock is variable depending on the source, with more than one year being the minimum, then ranging through 2-5 years and up to as many as 15 to 25 years depending on the analyst cited. This type of trading was most popular in the early days of the stock market and is responsible for the early wealth of the third wealthiest man in the world, Warren Buffett [2]. However, after the dot.com bubble burst in 2000 and the crash of 2008-2009 there is some controversy over whether this particular trading strategy is dead or not [3].

2.2.1 Fundamental Analysis

One method for evaluating stocks for the buy-and-hold strategy is the Fundamental indicator Analysis approach. This involves both a qualitative and quantitative analysis of the chosen company. Factors such as the company's cash flow, earnings, book value, and other financial benchmarks are compared to other companies in the same industry as well as the stock market as a whole. Some of the qualitative aspects that also have to be taken into consideration are the company's business model, its competitive advantage, and its management. Fundamental Analysis of companies is used to some extent in many of the other stock analysis strategies.

2.2.1.1 Financial Statements

Financial statements are the method that companies use to disclose their financial performance. The three most informative and important statements are the income statements, balance sheets, and the cash flow statements. These statements can normally be found at any reputable financial website as well as in the full annual 10-K or quarterly 10-Q report released by the company and found on the internet. Other important portions of the 10-Q/K filings are the Management Discussion and Analysis which is normally the first couple of pages of the report, the Auditor's report, and the Notes to the Financial Statements.

2.2.1.1.1 Income Statements, Balance Sheets, and Cash Flow Statements

The income statement normally consists of two parts, the operating and non-operating sections. The operating section discloses revenues and expenses that are directly related to the business operations. The non-operating section contains the information about the company activities that don't directly relate to the normal operations. The Income Statement shows a basic picture of where the money is going including gross profits, operating income, after tax income, earnings per share, dividend information and other items.

The Balance Sheet lists a company's assets, liabilities, and equity. This forms a snapshot of where the money is in a company.

The Cash Flow Statement presents a picture of the company's cash flow both into and out of the company.

2.2.1.1.2 Management Discussion and Analysis

This is normally a few pages included before the actual financial results or later as a separate section following the Financial Reports. It is written by the company, and as such, the information provided may be skewed by the company or at the least it may omit any negatives.

2.2.1.1.3 Auditor's Report

The Auditor's Report or "report of independent accountants" is included to verify that the report is reasonably accurate and that it provides adequate disclosure. By law, this report must be included for annual reports and must be accomplished by a certified public accountants firm.

2.2.1.1.4 Notes to the Financial Statement

These are notes included after the actual financial statements to explain items in the statements. Companies use this section to give full and complete details and explanations of each line item in the Financial Reports.

2.2.2 Contrarian Analysis

Another method for evaluating stocks is the Contrarian Analysis method. Contrarian Analysis at its simplest looks for investor expectations and takes opposing action. If analysts are bearish on a stock, then contrarians believe that it may be near the point where the selling strength is depleted and some amount of buying could send the stock higher. If the analysts are bullish on a stock, then contrarians believe that by the time the public becomes aware of this, the demand for the stock is nearing its end and it will shortly turn around [4].

Some of the indicators used for Contrarian Analysis are short interest, analyst ratings, and the amount of media coverage the company is getting. Short interest is the total number of shares of stock that have been sold short but have not been repurchased yet. This number is important since if it is rising

they must be repurchased and this indicates a bullish condition. The analyst ratings are monitored for buy, hold, or sell ratings since an abundance of ratings at either extreme is a contrarian indicator that the stock will turn the other way. Media attention is monitored because it is believed that any large amount of media coverage is a signal that the current trend is about to reverse.

2.3 CAN SLIM Trading

CAN SLIM is actually a mnemonic used to denote a stock picking strategy. The separate parts of the mnemonic are described below.

C – Current earnings

The stock chosen needs to have earnings per share for the most recent quarter with at least 18-20% growth year-over-year.

A – Annual earnings

The average growth of the company should be in the 25-50% range for the preceding 5 years.

N – New

The company has to have something new in the mix. This could be something like a new market, new product, new management, new stock high, etc.

S – Supply and Demand

In this case, supply and demand signifies the fact that a smaller company with a smaller number of outstanding shares can more easily show an outstanding gain compared to a larger company.

L – Leader or Laggard

This is the distinction between the company being a leader in its industry or a laggard. This is most often based on the relative price strength of the stock. A relative strength of between 80-90 is recommended.

I – Institutional Sponsorship

The stock should have at least 3 to 10 Institutional owners. If a stock didn't have any institutional owners, then that would mean that thousands of institutional money managers had passed it over.

M – Market Direction

The market direction is the direction that the market is currently trending.

2.4 Liability-driven investment strategy

This strategy takes into account a sum of liabilities that it must overcome with cash generated by the investments. The portfolio is then adjusted to maintain this cash flow.

2.5 Market Timing

The Market Timing strategy is an attempt to predict the future of a stock or index based on recent prices, volumes, economic data, and other indicators. Using the indicators along with gut feeling, an investor attempts to predict when a stock or market will change direction and then takes action on that prediction before there are any concrete indications to back up the prediction. For people that guess correctly, they can make a killing. But for anyone that attempts this and guesses wrongly, the results are disastrous.

2.6 Trend Following

Trend Following is an investment strategy that takes advantage of long-term moves in a market. This form of investing was most widely used in commodity trading, financial futures, and currency trading, as these were the most systematic in terms of portfolio management. In the last decade or so it has been applied to the stock market with favorable results [5]. This strategy uses calculated moving averages and breakouts to determine the direction of the trend and to generate the trade signals needed to take action. There are a multitude of variations on the Trend Following system available throughout the investment world and each one takes into consideration different combinations of factors with different weight in the calculations required. However, the same basic components seem to be common amongst

all of them; the current market price, a method for determining current market volatility, and a method for determining exit points based on the Average True Range (ATR) [6].

2.7 Swing Trading

The swing trading strategy is used to buy and sell stocks at the low and high points caused by the volatility of the stock. The swing trading philosophy notes that all stocks present a curve such as that shown in Figure 2 whether the period is a day, week, month, or larger. Also, this curve will apply to whole markets, not just individual stocks. Stage 1 is an area after a prolonged downward trend where the stock is just drifting sideways. Stage 2 is the following breakout and uptrend. Stage 3 is the next area of equilibrium between buyers and sellers which causes the stock to drift sideways again. Stage 4 is the downtrend that follows Stage 3.

Swing trading involves getting into a stock early in stage 2. It also involves trading on the pullbacks. Pullbacks, or Trader Action Zones (TAZ), are the areas where a stock is rising, stalls out and dips back down right before coming back and continuing on its trend. An example of a pullback is illustrated in Figure 3 below showing recent results for Comcast Corporation. Pullbacks also occur on the downward trends and provide opportunities to short the stock.

Most swing traders use a set of objective rules and strict money management in order to remove the subjective element in trading. These rules can be incorporated into more specific and complicated algorithms or kept as simple as using the behavior of the stock's price trend through different moving averages.

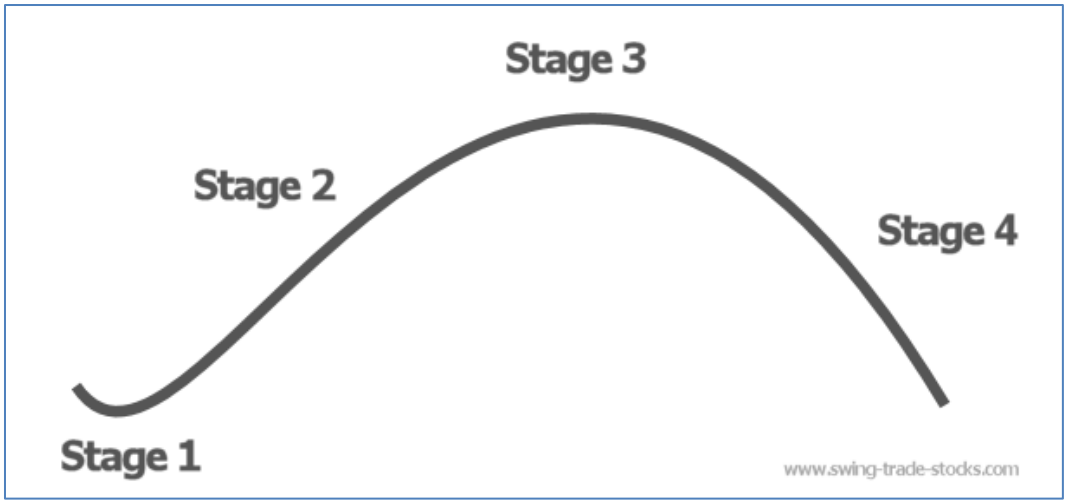


Figure 2 Stock Market Stages

Figure 3 Trader Action Zones (TAZ)

2.8 Day Trading

Day trading is the trading of stocks or other equities such that all buying and selling are accomplished within the same day and all positions are cleared before the market closes for the day. The profits in this type of trading are generated by scalping or shaving the ask and bid prices on large volume fast trades. These trades can be as short as, or less than, one second.

2.9 Selection of Simulation Strategies

The trading strategies that will be used for the Stock Market Simulation are Trend Following based on the Average True Range, Trend Following based on the 50 and 100 Day simple moving averages, and Swing Trading. These were chosen due in part to the time constraints of the project and the amount of work required for one person to maintain the simulation since no automated systems other than the internet and a personal computer are available for the research, evaluation, and comparison of stocks.

Two Trend Following systems are being used since the variations in entry, exit, and trigger points essentially make them two different types of systems. One will use a short term calculated average true range value to trigger sell points while the other will monitor longer trend values according to simple moving averages.

The Swing Trading simulation will be based on the simpler moving averages comparison at the beginning with the addition of more control indicators later in the simulation.

2.9.1 Exit Strategy

While there are many investment strategies available to trade in the markets and countless variations of these strategies, the single most important strategy that an investor must master is the strategy used to define the management of his money and the exit from a market position. Entering a market position without a clear idea of when to get out or how to take profits and manage losses is a sure way minimize those profits or to lose money.

Trading in the markets can be an exciting and compelling experience which is almost guaranteed to produce some form of emotion on the part of the trader. These emotions can easily affect the way that a trader looks at his investments. They can cloud the analysis of indicators and seduce a person into either consciously or unconsciously predicting where his investment will head. Another common pitfall that many new investors fall into is to buy a stock and have it start to trend in the opposite direction than expected, and not believe that it is really happening. They ignore clear indicators contradicting the trend that they expected to see.

In order to prevent emotions, expectations, and other factors from interfering with maximized gains and minimized losses, a clear plan of action needs to be in place before any new position is taken in a market. This strategy needs to cover actions for both taking profits and minimizing losses. There are many types of exit strategies. Three common strategies are discussed below.

2.9.1.1 The Trailing Stop

A trailing stop order, also referred to as a stop-loss order, is a sell order (for a long position) set at either a percentage or fixed dollar amount below the market value of the stock. For example, if you bought stock 'xyz' for $20 per share and wanted to limit your loss to 10%, then the stop-loss order would be placed at $18.00 right after buying the stock. The trailing stop price will be adjusted with changes in the stock's price. If the stock price were then to rise to $22, the trailing stop would be adjusted to $19.80.

There are both positive and negative aspects to this type of exit strategy. The positive aspect of the trailing stop method is that you don't have to continuously monitor the stock activity. If the price should fall while you are not watching the market, your losses are limited.

One of the negative aspects of the stop-loss is the fact that once it triggers it becomes a market order. In a fast paced market, this market order may sell at a much different price than the stop price. Another negative is the fact that a short-term fluctuation in the stock price could activate the stop. For this reason, it is important to set the stop outside of the normal day-to-day or weekly fluctuations. It would not do much good to set a 5% stop on a stock that normally fluctuates as much as 10% in a week.

The important point to remember with the trailing stop is to determine the criteria for setting it and stick with it. The stop can't help you if you don't set it.

2.9.1.2 The Hard Stop

A hard stop is the simplest form of stop order. A stop order is placed at a fixed amount from the entry price. The amount off of the entry price is the fixed amount of risk that you are willing to take.

2.9.1.3 The ATR % Stop Method

The %ATR method takes a fixed percentage of the ATR and sets the stops there. This can be used by any type of trader by varying the percentage to match the type of trading. For example, a swing trader would use a much higher percentage of the ATR than a day trader because he wants to ensure that he is in the game longer and doesn't get stopped out. This method normally uses the 14 day ATR.

Chapter 3: Strategy 1, Swing Trading

The swing trading strategy used for this simulation is based on a combination of the generic details of swing trading combined with specific points presented by Craig Ferguson on his website http://www.swing-trade-stocks.com/. This chapter describes in more detail the method of swing trading used for the simulation, the entry and exit criteria for the method, and then provides a chronological presentation of the simulation using this method. A summary and conclusions is presented at the end of the chapter.

The Swing Trading strategy is based on the basic shape of the curve that all stocks and markets go through. The curve was shown earlier in Figure 2. This basic curve represents both a macro and a micro view of the markets. This could be either a monthly, weekly, daily, or intraday chart. A more detailed analysis of the stages of the curve is provided by the Elliot Wave Pattern [7].

The Elliot Wave Pattern breaks down stages into a basic 5 wave structure consisting of two phases, a motive phase and a corrective phase. This is shown in Figure 4. Waves 1 through 5 correspond to stage 2 of Figure 2. In Wave 1 the downward trend has just reversed. Wave 2 is the first pullback. This is where we need to watch the candlestick graphs for a Swing Point Low to indicate the point to enter Wave 3. A more detailed description of the candlestick patterns for Swing Point Low and Swing Point High are given below. Wave 3 is the longest part of stage 2 and results in the largest price gains. Wave 4 is the next pullback. This occurs as stock begins to slow and shift sideways. Wave 5 is the last upward trend before the end of stage 2.

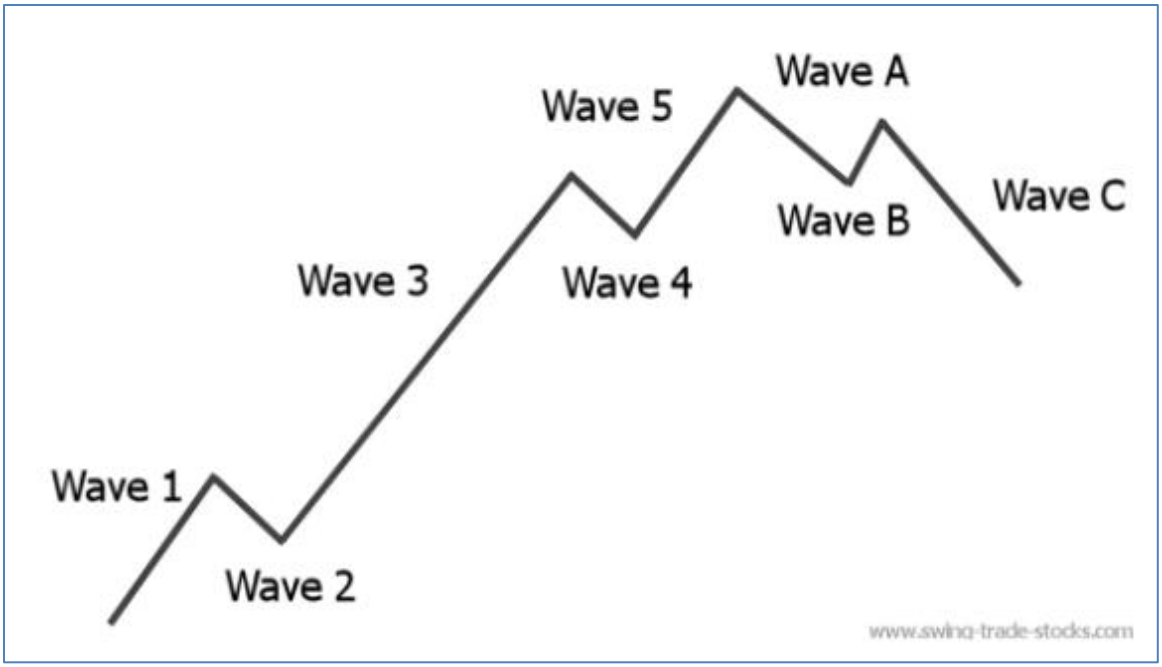
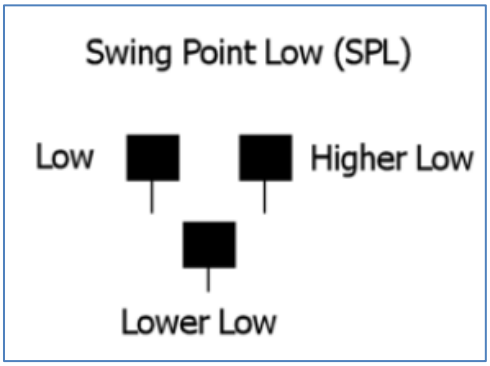


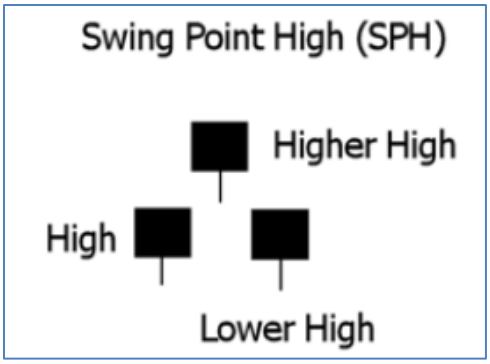
Figure 4 Basic Elliot Wave Pattern

The trader action zones introduced earlier are normally indicated by either a Swing Point Low (SPL) during a pullback in an uptrend or a Swing Point High (SPH) during a pullback in a downtrend. A SPL is characterized by a set of three candles, the first making a low, the second making a lower low, and the third making a higher low. This is shown in Figure 5. The converse is a SPH used for shorting and this is shown in Figure 6. The third candlestick in the pattern signals the entry point for a swing trade, provided that all the other indicators being used support the decision.



(www.swing-trade-stocks.com)

Figure 5 Swing Point Low (SPL)



(www.swing-trade-stocks.com)

Figure 6 Swing Point High (SPH)

When scanning stocks for these indications of trader action zones there are several other indicators involved. These are the trade volume, simple moving averages, exponential moving averages, Williams %R, and Average Directional Index (ADX).

Volume is an indication of how much interest there is in the stock. If a stock is trading on high volume, then there is a lot of interest in that stock. Whether the stock price is going up or down doesn't matter; only the fact that the volume is high signifies the interest. A surge in volume or a drop off in volume can both mean an end of a trend when taken into consideration along with the stock price. For example, if a selloff of a stock is occurring over several days with climbing volume, you could normally expect that a point will be reached where a reversal will occur as the price bottoms and the volume peaks and sellers turn into buyers. Conversely, if the stock price has been rising and starts to drift sideways as volume slacks off, then you could assume that there are no more buyers for the stock and traders are losing interest. In this case you would expect a reversal.

Simple Moving Averages (SMAs) and Exponential Moving Averages (EMAs) are used in several different ways. The 200 day SMA is a common indicator used to show the general trend of a stock. A 10 day SMA is used in conjunction with a 30 day EMA to give the direction of a stocks trend on a more dynamic scale than the 200 day SMA and it also provides boundaries to be used in locating TAZs.

The Williams %R indicator is used to indicate when the market or a stock has reached a short term extreme and is likely to reverse. Generally accepted limits for this indicator are -80 and -20. When the indicator is less than -80 the stock is considered to be oversold and when it is greater than -20 it is considered to be over bought. In either case, a reversal is likely to happen.

The Average Directional Index (ADX) is used to check the strength of a trend. In order to avoid stocks fluctuating in trading ranges and look for stocks in strong trends, we look for stocks with an ADX greater than 20.

The main method of swing trading is to use the general shape of the curves, the swing points, and any other indicators such as moving averages, volumes, etc. to be able to enter a stock either at the beginning of an upward (or downward) trend or to enter in one of the trader action zones.

3.1 Initial Conditions

The general method used for choosing stocks using the swing trading method is outlined below. Since the swing trading method involves the use of multiple indicators, candlestick patterns, and curve shapes, this method is an outline at best. There are normally no hard and fast rules which will trigger a buy, short, or sell.

1. Check the market behavior for the last market day to close. Specifically, I will use the S&P 500 to gauge market performance. If the market is trending down I would concentrate on shorting opportunities. If the market is trending up or entering an action zone, I would concentrate on looking for long opportunities. This may be the single most important point to check as approximately three out of four stocks follow the movement of the major market indices.
2. Run daily scans looking for trader action zone setups, long setup, and any specific candlestick scenarios that might be of interest.
3. Analyze all the resulting graphs for specific indicators such as SPLs, SPHs, trends, pullbacks, etc. Below are some specific points involved in the scans and analysis.

a. Verify that the stock is trending and not just moving in a trading range. A trending stock is characterized by having higher highs and higher lows during an uptrend and by having lower highs and lower lows during a downtrend.
b. Use a 10-day simple moving average and a 30-day exponential moving average to watch for trends and trading zones. The uptrend can be seen when the 10-day SMA is above the 30-day EMA and both moving averages have a positive slope. The downtrend is just the opposite of this. This only works when the stock is trending and not in a trading range. The 200-day simple moving average is also used to look for long setups above this line and short setups below the line.
c. Check the trading volume. A surge in trading volume could be an indicator of the end of a trend, but, volume and price should normally be viewed together. A sideways moving stock that suddenly displays an increase in volume coupled with an increase in price range is a clear signal of increased interest in that stock and will probably trend higher. A high volume stock with a narrow range is a sign that significant redistribution of the stock is taking place and probably signifies a larger move coming soon.
d. Watch for the first pullback after the uptrend starts. Once the pullback is identified, look for a swing point low to signal an entry opportunity.

Below is an example of a stock scan used on stockcharts.com to look for trading action zones that might be forming.

Line	Code
1	[type = stock] and [country = us] and[daily ema(60,daily volume) > 150000] and
2	[daily high < yesterday's daily high] and
3	[yesterday's daily high < 2 days ago daily high] and
4	[sma(10, close) > ema(30, close)]and
5	[daily close > daily ema(30,daily close)]and
6	[daily close < daily sma(10,daily close)]and
7	[daily close > daily sma(200,daily close)]and
8	[weekly sma(10,weekly close) > weekly ema(30,weekly close)]and
9	[ADX Line(10) > 20.0]and
10	[close >= 5]

Table 1 Stock scan coding for scan on StockCharts.com

Line 1: All the stocks in the US with volume > 150000 shares per day traded average over the past 60 days.

Line 2: Todays high is less than yesterday's high

Line 3: Yesterday's high is less than the day before that

Line 4: The 10 day SMA is greater than the 30 day EMA

Line 5: The close today is greater than the 30 day EMA line today

Line 6: The close today is less than the 10 day SMA today.

Line 7: The close today is greater than the 200 day SMA

Line 8: The 10 week SMA is greater than the 30 week EMA

Line 9: The 10 day ADX is greater than 20

Line 10: The closing price is greater than $5.

Taken all together, this will produce a scan of all the stocks in the U.S. with an average trade volume greater than 150,000 shares, that produce a SPH candlestick pattern occurring within the boundaries of the SMA/EMA lines, showing an uptrend over the averages of 10 weeks, with an ADX showing a strong trend and the stock price above $5 per share.

3.2 Swing Trading, SIMULATION WEEK 1

6/20/2011 – 6/24/2011

This portion of the Simulation was started later than the two Trend Following portions of the Simulation due to the additional complexities involved in this type of trading. A decent knowledge of most of the indicators used in stock trading was required in order to start deciphering the data presented by the indicators. This background was required before attempting to pick stocks for this type of trade.

A Stock Scan was set up and run prior to the start of the week. The results of this scan are output as a list of stock symbols. Each stock then had to be reviewed individually since these criteria can be present in different areas of a stock chart apart from the first pullback and TAZ that I am looking for. There were three stocks that looked promising for slightly different reasons. These are introduced and discussed below. The stock and cash summary for week 1 is shown in Table 2.

3.2.1 Aoxing Pharmaceutical Company, Inc. (AXN)

Aoxing Pharmaceutical is a specialty pharmaceutical company which researches, develops, manufactures, and distributes various narcotics, neurological, and pain medications through a subsidiary in China. Their products include both prescription and over the counter products. Aoxing Pharmaceutical Inc. was founded in 1655 and is based in Jersey City, New Jersey.

The chart prior to Monday 6/20/2011 showed a downward trend that ended in a SPL. This is not the set of conditions that I had been searching for to indicate a TAZ in a pullback, but it was interesting for other reasons. The Williams %R had risen over -20 (almost -10) on a strong ADX value greater than

30 and rising volume the last several days. All of the indicators taken together made me think it would turn in the next several sessions. I entered a Buy for 5000 shares and this went through at 9:50am 6/20/2011 at $1.00 per share.

The next several days showed increases in the stock price as the trend turned. On 6/22/2011 I entered a stop-loss order for $1.00 to protect myself on the downside. On 6/23/2011 the stock closed at $1.43 and I changed the stop-loss order to $1.33. On 6/24/2011 I was stopped out at $1.33 per share. The chart showing up to when I was stopped out is shown in Figure 7.

Figure 7 Aoxing Pharmaceutical Co. Inc. (AXN)

3.2.2 Inter Parfums, Inc. (IPAR)

Inter Parfums, Inc. manufactures, markets, and distributes fragrances and fragrance related products in the United States and Europe. The company was previously known as Jean Philippe

Fragrances, Inc. and changed its name to Inter Parfums, Inc. in July 1999. They are located in New York, New York.

The chart for IPAR led me to believe that one of two possible scenarios will play itself out within the next week. The first scenario is that the stock has entered a new trading range and I would be able to buy at the new support level and sell at the new resistance level. This scenario was based on the fact that the stock had spent the last several months trading in a trading range with support of approximately $17.50 and resistance of approximately $19.00. This was followed by a sharp increase in volume and an upward trend. Then the upward trend reversed and looks to be entering a new trading range. The second scenario could be that the upward trend would continue.

In either scenario, the indications didn't warrant a buy at the beginning of the week. As I followed the stock through the week it began to look more as if the first scenario would pay out. When the stock closed up on 6/23/2011 I put in a buy order for 500 shares. This order processed on 6/24/2011 for $21.69 per share. This is shown in Figure 8.

Figure 8 Inter Parfums, Inc. (IPAR)

3.2.3 Imperial Sugar Co. (IPSU)

The Imperial Sugar Company is a processor and marketer of refined sugar and sugar related products in the United States. The company was founded in 1843 in Sugar Land, Texas.

Looking at the chart at the beginning of the week showed an upward trend over the last month and a possible pullback and TAZ forming. This chart is shown in Figure 9. I decided to wait a few days to see if this would prove true or if the stock would slip sideways. On 6/23/2011 the volumes were still pretty high and the day showed the third consecutive increase. I put a buy order in after close for 500 shares.

On 6/24/2011 the order went thru for 500 shares at $20.21. Unfortunately, the stock closed the $19.82 that day. I will have to watch this stock closely on Monday to determine if I should get out. Unfortunately, if I placed a stop-loss order it would have to be too close to the present price and I would probably get stopped out of the stock early on Monday.

Figure 9 Imperial Sugar Co. (IPSU)

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/20/2011											$100,000.00
6/20/2011	AXN	Buy	$1.00	5000	$9.95	$5,009.95					$94,990.05
6/24/2011	AXN	Sell	$1.33	5000	$9.95	$6,659.95			$1,650.00		$101,650.00
6/24/2011	IPAR	Buy	$21.69	500	$9.95	$10,854.95					$90,795.05
6/24/2011	IPSU	Buy	$20.21	500	$9.95	$10,114.95					$80,680.10
6/24/2011	IPAR			500			$22.06	$11,030.00			
6/24/2011	IPSU			500			$19.82	$9,910.00			
								Total Weekly Asset/Cash			**$101,620.10**

Table 2 Stock and cash summary for Swing Trading week 1

3.3 Swing Trading, SIMULATION WEEK 2

June 27, 2011 – July 1, 2011

Two new stocks were added during this week, International Rectifier Corporation and USG Corporation. The stock and cash summary for week 2 is shown in Table 3.

3.3.1 Inter Parfums, Inc. (IPAR)

On Monday, 6/27/2011, I put a stop-loss order for $21.42 to protect this from any downside. The stock finished the week at $23.30. On Thursday, the stock closed up but it had hit an intra-day low of $20.32 that flushed out everyone with stops. This is shown in Figure 10 below. The only reason that I didn't get stopped out was that I had put the order in on Monday as a "Day" order and forgot to update it throughout the week. If the stock had actually reversed, I would have taken a large loss with no protection in place. I placed a good-till-cancelled stop-limit order at $22.87.

Figure 10 Inter Parfums, Inc. (IPAR) at the end of week 2

3.3.2 Imperial Sugar Co. (IPSU)

Monday saw the stock gain to close at $20.35. I put a stop-loss on it for $19.21 in order to limit my losses if it should turn down this week. I kept this stop-limit in place until Friday as there were several days of loss. I still expect a reversal to an upward trend during this week. The chart is shown in Figure 11.

Figure 11 Imperial Sugar Co. (IPSU) at end of week 2

3.3.3 International Rectifier Corporation (IRF)

International Rectifier Corporation designs, manufactures, and sells power management semiconductors. These include items such as power MOSFETs, high voltage analog and integrated circuits, insulated gate bipolar transistors, digital integrated circuits, converters, and much more. In March 2011 they acquired CHiL Semiconductor Corporation.

On Monday the 27th the stock had made some good gains over several days coming off a downtrend. It also had a good candlestick pattern on active volume. I put a buy in for Tuesday morning

and got in at $27.27 for 400 shares. The stock continued to make gains on decreasing volumes and looks like it is trending upward now. This is shown in Figure 12.

Figure 12 International Rectifier Corporation (IRF) at end of week 2

3.3.4 USG Corporation (USG)

USG Corporation, through its subsidiary companies, is a manufacturer and supplier of building materials. These materials are used for the repair, remodel construction of residential, nonresidential, and industrial buildings.

At the end of the day Monday this stock looked like it might be entering a pullback. I put a buy in for the 28th and bought 700 shares at $14.25. I used the previous wide range candle as a stop-loss limit at $13.99 for the week. By the end of the week the stock had risen to close at $14.61. The USG chart is shown in Figure 13.

Figure 13 USG Corporation (USG) at end of week 2

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/27/2011											$80,680.10
6/28/2011	USG	Buy	$14.25	700	$9.95	$9,984.95					$70,695.15
6/28/2011	IRF	Buy	$27.27	400	$9.95	$10,917.95					$59,777.20
7/1/2011	IRF			400			$28.52	$11,408.00			
7/1/2011	USG			700			$14.61	$10,227.00			
7/1/2011	IPAR			500			$23.30	$11,650.00			
7/1/2011	IPSU			500			$19.61	$9,805.00			
								Total Weekly Asset/Cash			**$102,867.20**

Table 3 Stock and cash summary for Swing Trading week 2

3.4 Swing Trading, SIMULATION WEEK 3

July 5, 2011 – July 8, 2011

Fluctuations in the stocks this week caused two of the stocks held to get stopped-out. Two other stocks were purchased as well. The stock and cash summary for week 3 is shown in Table 4.

3.4.1 Inter Parfums, Inc. (IPAR)

This week started with a stop-limit in place of $22.87. The stock continued to climb through the week and closed at $24.20 compared to last week's close of $23.30. After the close on Friday I changed the stop-limit order to $23.32.

Figure 14 Inter Parfums, Inc. (IPAR) at the end of week 3

3.4.2 Imperial Sugar Co. (IPSU)

On Tuesday the stock price dipped down below my stop-limit of $19.21 and triggered a sell order. This cleared my position at an overall loss of $519.90. The IPSU chart is shown in Figure 15.

Figure 15 Imperial Sugar Co. (IPSU) at end of week 3

3.4.3 International Rectifier Corporation (IRF)

This week IRF bounced around the $28 range without really making any progress. I have a stop-limit order in place at $27.79 and the stock closed this week at $28.22. The close for last week was at $28.52. The IRF chart is shown in Figure 16.

Figure 16 International Rectifier Corporation (IRF) at end of week 3

3.4.4 USG Corporation (USG)

What looked like a pullback forming in an upward trend now appears to be a downward trend. On Tuesday I had adjusted the stop-limit to $14.15 and on Wednesday I got stopped-out as the price came down. This resulted in an overall loss of $89.90 for this stock. The final chart is shown in Figure 17.

Figure 17 USG Corporation (USG) at end of week 3

3.4.5 Allot Communications Ltd. (ALLT)

Allot Communications produces hardware platforms and software applications for internet protocol service optimization for mobile, DSL, and wireless carriers.

The chart (shown in Figure 18 below) shows several indications pointing to a possible upward trend. These are as follows: %R > -80 with a 10 SMA and a 30 EMA trending upward, an ADX > 20, and a SPL. I put in a buy for 500 shares on 7/7/2011 at $18.09 per share.

Figure 18 Allot Communications Ltd. (ALLT)

3.4.6 Jefferies Group, Inc. (JEF)

The Jefferies Group and its subsidiaries are an investment banking firm. They operate in two business segments: Capital Markets and Asset Management.

The chart leading up to the 7th of July showed several strong indicators for shorting the stock. The indications, shown in Figure 19, are as follows: %R < -20 with a 30 EMA over the 10 SMA and both trending down, a SPH, and an ADX > 20. I put in a short order for 200 shares on the 7th at a limit of $21.17.

Figure 19 Jefferies Group, Inc. (JEF)

3.4.7 Fisher Communications, Inc. (FSCI)

Fisher Communications is an integrated media company that operates through two subsidiaries. These subsidiaries conduct broadcasting operations through 20 television stations and 10 radio stations.

The chart leading up to the 7th showed a SPL within the upward trending 10 SMA and 30 EMA lines. This is shown in Figure 20. I put in a buy on the 7th for 300 shares at $29.85.

Figure 20 Fisher Communications, Inc. (FSCI)

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/5/2011											$59,777.20
7/5/2011	IPSU	Sell	$19.21	500	$9.95	$9,595.05			(519.90)		$69,372.25
7/6/2011	USG	Sell	$14.15	700	$9.95	$9,895.05			(89.90)		$79,267.30
7/7/2011	ALLT	Buy	$18.09	500	$9.95	$9,054.95					$70,212.35
7/7/2011	JEF	Short	$21.17	200	$9.95						$70,202.40
7/7/2011	FSCI	Buy	$29.85	300	$9.95	$8,964.95					$61,237.45
7/8/2011	ALLT			500			$17.65	$8,825.00			
7/8/2011	JEF			200			$20.98				
7/8/2011	FSCI			300			$29.65	$8,895.00			
7/8/2011	IRF			400			$28.22	$11,288.00			
7/8/2011	IPAR			500			$24.20	$12,100.00			
								Total Weekly Asset/Cash			$102,345.45

Table 4 Stock and cash summary for Swing Trading week 3

3.5 Swing Trading, SIMULATION WEEK 4

July 11, 2011 – July 15, 2011

This week the markets continued to be affected by the uncertainties surrounding the debates in Congress concerning the Debt Ceiling. This uncertainty caused a lot of short term fluctuation as investors looked to short term gains as opposed to any longer term investing. These fluctuations caused a move out of IPAR and IRF stock. To offset the large amount of cash I was carrying on-hand I added two more stocks, ISTA and ZAGG. The stock and cash summary for week 4 is shown in Table 5.

3.5.1 Inter Parfums, Inc. (IPAR)

This stock survived the Monday drop in the markets. The stop-limit order of $23.32 remains in effect. However, it looks like the stock formed a SPH from the end of last week to the beginning of this week (shown in Figure 21). In order to preserve my gains, I put a SELL order in for Friday at $23.50. This gave me an overall gain of $885.10.

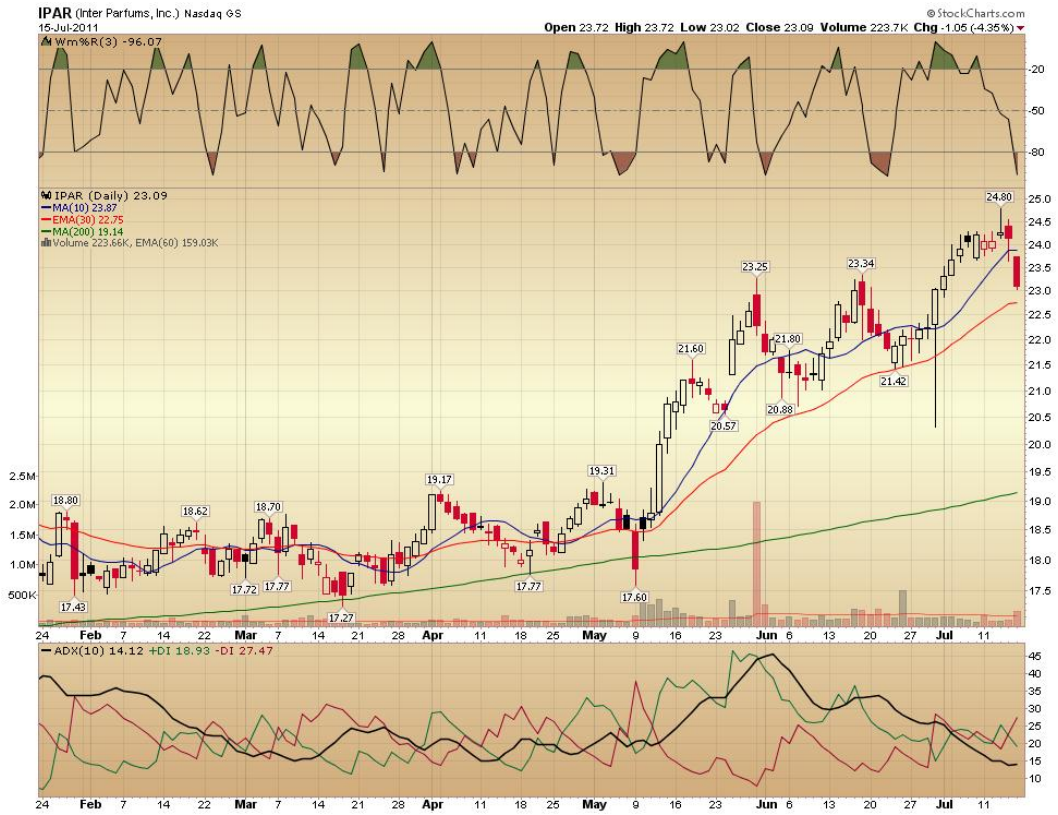


Figure 21 Inter Parfums, Inc. (IPAR) at the end of week 4

3.5.2 International Rectifier Corporation (IRF)

The Monday drop in the markets caused IRF to dip too far and cleared me out on the stop limit order. The limit had been set at $27.79. This resulted in an overall gain from this stock of $188.10.

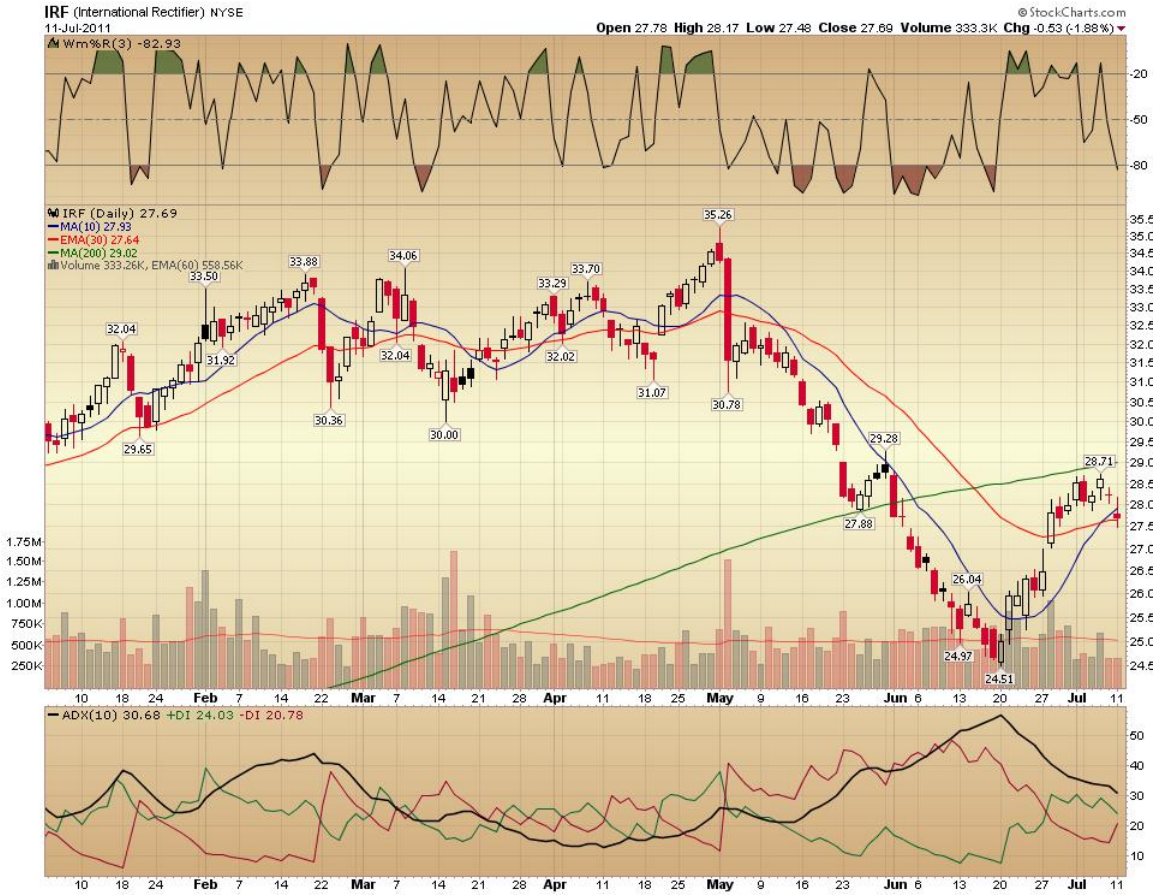


Figure 22 International Rectifier Corporation (IRF) at end of week 4

3.5.3 Allot Communications Ltd. (ALLT)

There was a lot of fluctuation in a small range on this stock. The stock closed down at $17.63 and the stop-limit order is still in place for $16.91 (a 5% loss).

Figure 23 Allot Communications Ltd. (ALLT)

3.5.4 Jefferies Group, Inc. (JEF)

The stock fluctuated this week but closed down at $20.48.

Figure 24 Jefferies Group, Inc. (JEF)

3.5.5 Fisher Communications, Inc. (FSCI)

Shares of FSCI suffered on Monday, closing down at $29.17. A stop-loss order is in place for $28.36. The remainder of the week was fairly positive with a close up at $29.96. The stop loss is changed to $29.24.

Figure 25 Fisher Communications, Inc. (FSCI)

3.5.6 ISTA Pharmaceuticals, Inc. (ISTA)

ISTA Pharmaceuticals is a pharmaceutical company that develops, markets, and sells its own products in the United States and Puerto Rico. The also run a prescription eye care business in the United States. At the end of the previous week the stock seemed to be trading sideways with a %R < -20 and the 30 EMA over the 10 SMA. The chart is shown in Figure 26. An upward trend may form. A buy order was completed on 7/13/11 for 1500 shares at $8.00. The stock closed out the week down slightly at $7.91.

Figure 26 ISTA Pharmaceuticals, Inc. (ISTA)

3.5.7 ZAGG Inc. (ZAGG)

ZAGG Incorporated designs, manufactures, and distributes accessories for consumer electronics and hand-held devices. This includes protective coverings, power solutions, and audio accessories. The

end of the previous week showed a classic pullback and formation of a TAZ. This is shown in Figure 27 below. Unfortunately I didn't catch it until Tuesday and put the order for a buy in Wednesday for 2000 shares at $14.00. The stock closed the week at $15.32.

Figure 27 ZAGG Inc. (ZAGG)

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/11/2011											$61,237.45
7/11/2011	IRF	Sell	$27.79	400	$9.95	$11,106.05			188.10		$72,343.50
7/13/2011	ISTA	Buy	$8.00	1500	$9.95	$12,009.95					$60,333.55
7/13/2011	ZAGG	Buy	$14.00	2000	$9.95	$28,009.95					$32,323.60
7/15/2011	IPAR	Sell	$23.50	500	$9.95	$11,740.05			885.10		$44,063.65
7/15/2011	ISTA			1500			$7.91	$11,865.00			
7/15/2011	ZAGG			2000			$15.32	$30,640.00			
7/15/2011	ALLT			500			$17.63	$8,815.00			
7/15/2011	JEF			200			$20.48				
7/15/2011	FSCI			300			$29.96	$8,988.00			
								Total Weekly Asset/Cash			**$104,371.65**

Table 5 Stock and cash summary for Swing Trading week 4

3.6 Swing Trading, SIMULATION WEEK 5

July 18, 2011 – July 22, 2011

This week was further plagued by the political indecision surrounding the talks over the Debt Ceiling issues. With only one more week to go until the deadlines for the Debt Ceiling issue the markets have been fluctuating on a daily basis. Apple and several other major players released their earnings reports this week but these were only able to provide short direction to the markets. The stock and cash summary for week 5 is shown in Table 6.

3.6.1 Allot Communications Ltd. (ALLT)

Allot continued to fluctuate this week. The stock closed slightly up at $17.83 and the stop-limit order is still in place for $16.91 (a 5% loss). The ALLT chart is shown in Figure 28.

Figure 28 Allot Communications Ltd. (ALLT)

3.6.2 Jefferies Group, Inc. (JEF)

At the beginning of the week I put a buy-to-cover order for $19.95. The stock hit support at $19.79 and reversed (shown in Figure 29). The actual order cleared at $20.04. This resulted in a gain of $226.

Figure 29 Jefferies Group, Inc. (JEF)

3.6.3 Fisher Communications, Inc. (FSCI)

The stock stopped-out on Wednesday (shown in Figure 30). The stop-loss order had been put in for $29.24. This resulted in an overall loss of $202.90.

Figure 30 Fisher Communications, Inc. (FSCI)

3.6.4 ISTA Pharmaceuticals, Inc. (ISTA)

The stock looks to be trading sideways but could use several more trade days to confirm. The stock closed the week up at $8.02. The ISTA chart is shown in Figure 31. A stop-loss order needs to be set.

Figure 31 ISTA Pharmaceuticals, Inc. (ISTA)

3.6.5 ZAGG Inc. (ZAGG)

Zagg had a down day on the 19th and triggered the stop-loss order (shown in Figure 32). The stock sold at $14.88 per share. This resulted in a gain of $1,740.10.

Figure 32 ZAGG Inc. (ZAGG)

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/18/2011											$44,063.65
7/19/2011	ZAGG	Sell	14.88	2000	9.95	29750.05			1,740.10		$73,813.70
7/20/2011	JEF	Buy-to-cover	$20.04	200	$9.95	$4,017.95			226.00		$74,039.70
7/20/2011	FSCI	Sell	$29.24	300	$9.95	$8,762.05			(202.90)		$82,801.75
7/22/2011	ALLT			500			$17.83	$8,915.00			
7/22/2011	ISTA			1500			$8.02	$12,030.00			
								Total Weekly Asset/Cash			**$103,746.75**

Table 6 Stock and cash summary for Swing Trading week 5

3.7 Swing Trading Simulation Conclusions

The Swing Trading Simulation was successful. The overall results of the simulation are shown below in Figure 33. The simulation lasted for 5 weeks during which 18 stock transactions were made and resulted in an overall gain of $3,746.75. Swing trading is a very dynamic type of stock trading and the simulation provided many real-world insights to the challenges of stock trading.

One challenge that was noted was the importance of the exit strategy. By going into a stock transaction without a clear plan for an exit, or a plan for managing gains, you are setting yourself up for confusion, added work, and emotional turmoil. When there is no exit plan in place there is a need to consistently monitor the changes in the stock price changes. If it does start to go down a decision has to be made as to how far to let it go before unloading it. Trying to make a clear decision about this after becoming invested in the stock is difficult due to the emotional involvement. The pitfall of hoping that the stock will recover starts to become more attractive than deciding to take the losses and get out of a stock that is moving against your expectations.

Another challenge as well as a realization was that all of the indicators being used for evaluation have to be consistently processed together. The act of making a decision about the behavior of a stock requires that all the chosen indicators be analyzed in context with each other. There were very few if any instances that one indicator would decide a course of action by itself. This particular point was difficult to keep in mind when doing the research each week but then clearly presented itself in hindsight as a stock's progress was re-evaluated after the fact.

Swing trading can be a successful and rewarding type of trading for the person that wants to be hands-on and consistently involved. It provides the stimulus of researching and interpreting indicators and formulating decisions without the tedious and lengthy research involved in a strategy such as Fundamental Analysis.

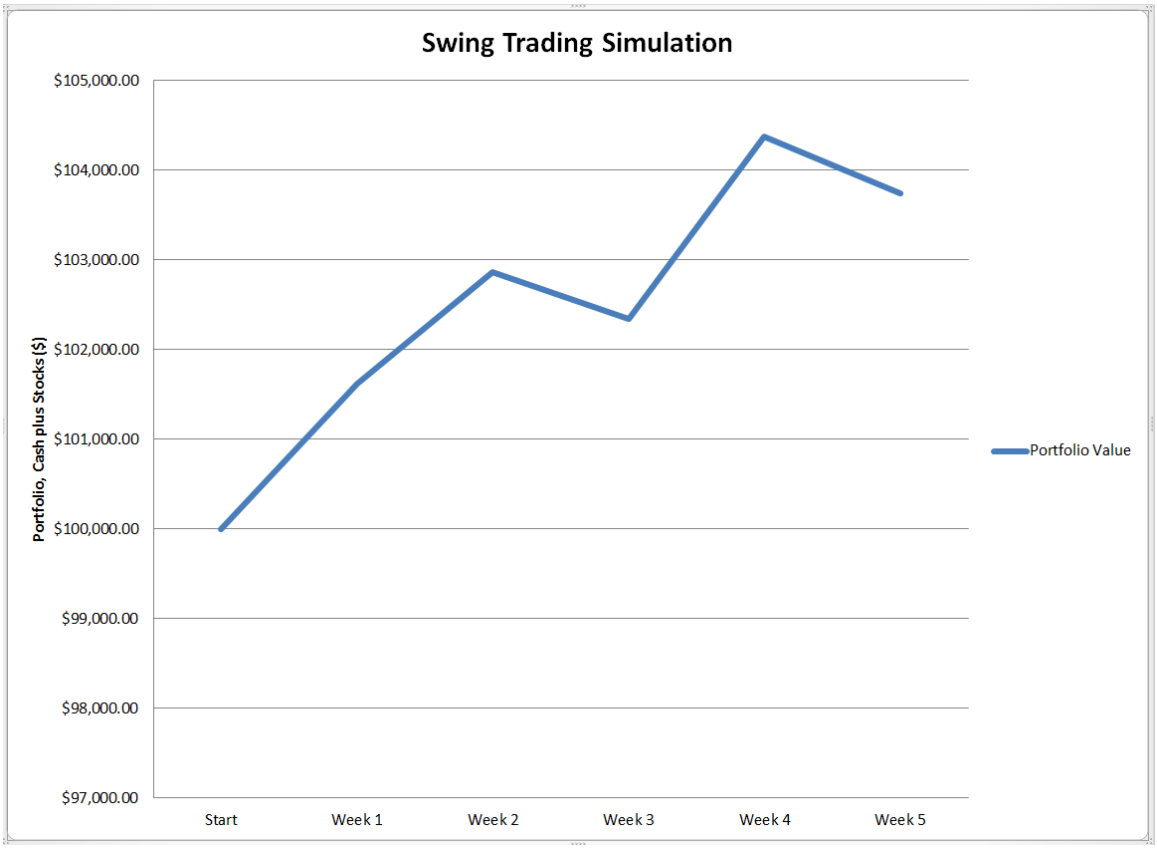


Figure 33 Swing trading simulation portfolio results

Chapter 4: Trend Following, Average True Range Method

The first Trend Following strategy used for the simulations is based on an average true range value obtained from the true range value calculations (described in more detail in the following section). This chapter describes the entry and exit criteria for the method and then provides a chronological presentation of the simulation using this method. A summary and conclusions is presented at the end of the chapter.

4.1 Initial Conditions and Tracking

The entry and exit guidelines for this Trend Following simulation are explained below.

4.1.1 Average True Range (ATR) Method

For the first Trend Following method (we will refer to this as the ATR method):

1. Entry point – if a stock is greater than or equal to the highest close in history then it must be at an all-time high. Stocks at this point can be purchased the following day.
2. Exit point – use a form of Average True Range trailing stops.
    a. The True Range is defined as the greatest of the following:
        i. Current High – Current Low
        ii. Current High – previous close (absolute value)
        iii. Current Low – previous close (absolute value)
    b. The Average True Range (ATR) for the entry point is the average of the 14 previous periods.
    c. $Current\ ATR = \frac{[(Prior\ ATR * 13) + Current\ TR]}{14}$
        d. Multiply the previous 14-day ATR by 13.
        e. Add the most recent day's TR value.
        f. Divide the total by 14.

3. Take the Current ATR and determine how many (whole) multiples of the ATR would approximate 5% of the current stock value. This is the multiple used to determine the ATR price line used in the chart.
4. The exit signal occurs if the closing price of the stock crosses the ATR line.

4.2 Trend Following, ATR Method, SIMULATION WEEK 1

May 23, 2011 – May 27, 2011

During Week One I started the search for stocks that met the initial entry guideline of closing costs equal to or greater than any point in history. The search was conducted manually by studying each company's historic performance beginning with the companies listed on the NASDAQ exchange. Three companies were selected and buys were put in place for 5/23/2011. These were the MAKO Surgical Corporation, Aaron's Corporation, and Ansys Incorporated. The stock and cash summary is shown in Table 7.

4.2.1 MAKO Surgical Corporation (MAKO)

Market Cap: $1.35B

The first company to meet the entry specifications was the MAKO Surgical Corporation (symbol MAKO). The overall chart for MAKO is shown in Figure 34. This is a medical device company that offers a robotic arm solution and orthopedic implants for orthopedic procedures. The initial stock was purchased on 5/23/2011 for $32.06 per share.

On Friday, 5/27/2011, an article was published naming this stock as one of "9 Overbought Stocks With Institutional Buying"[8]. This may mean a change in the trend in the near future. The ATR chart for MAKO is shown in Figure 35.

http://www.google.com/finance

Figure 34 MAKO Historic Performance

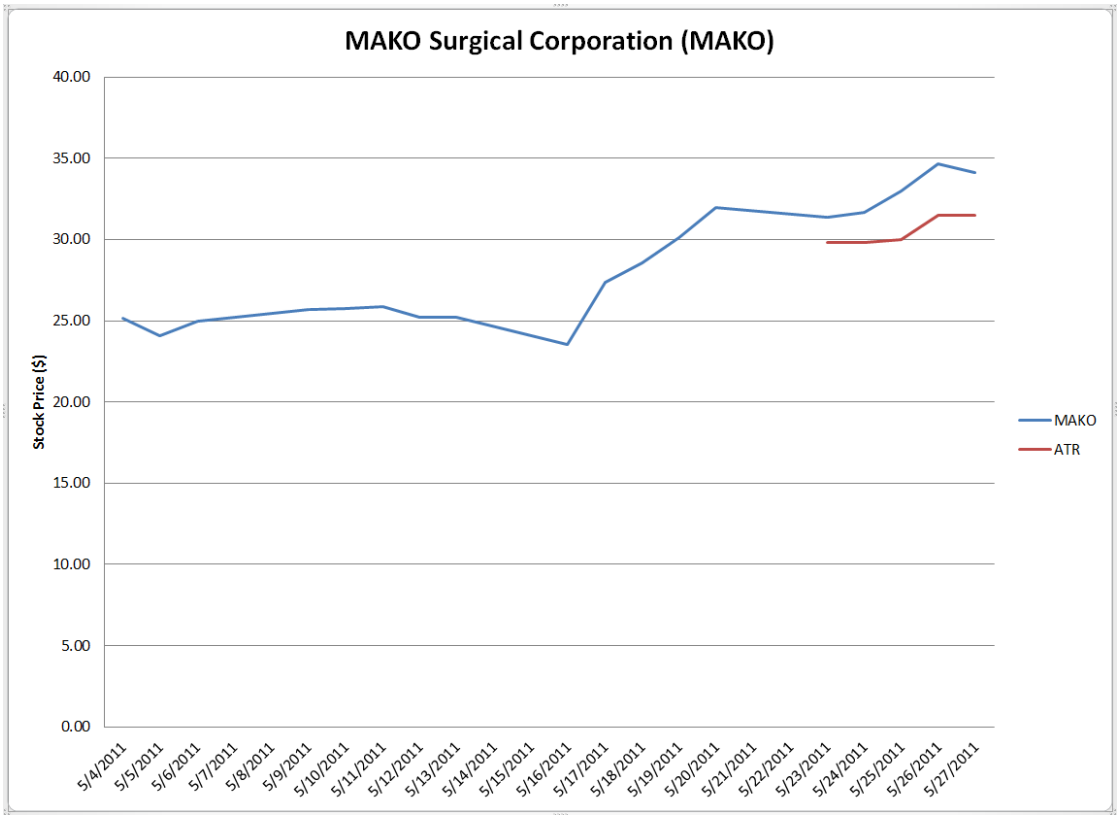
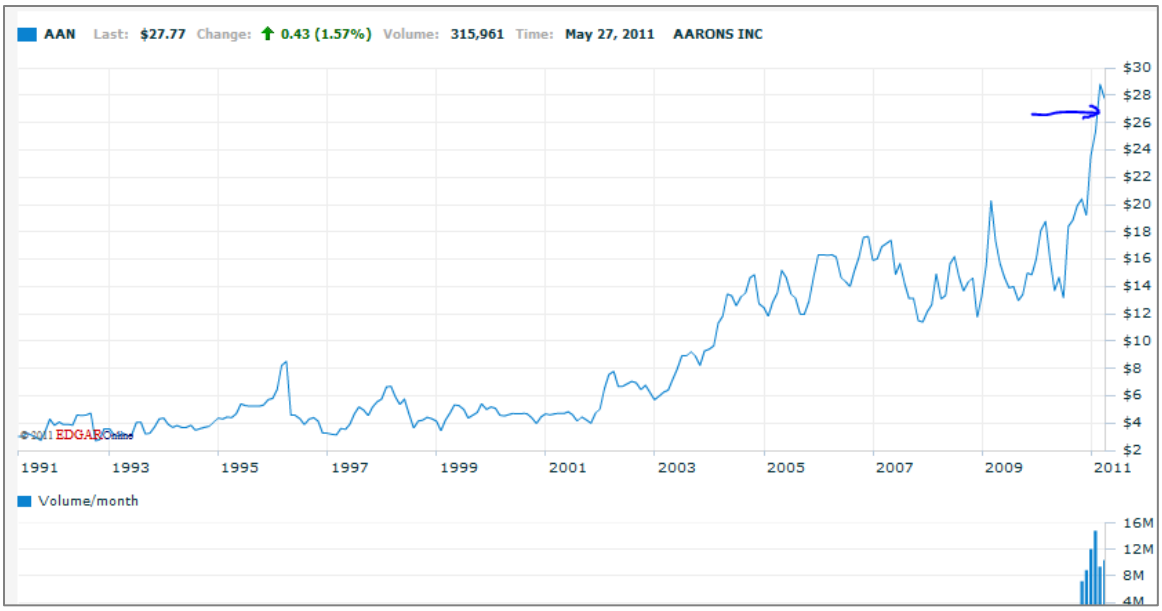


Figure 35 MAKO Stock Price vs. ATR

4.2.2 Aaron's, Inc. (AAN)

Market Capital: $2.2B

Incorporated in 1962, Aaron's is a specialty retailer of consumer electronics, computers, residential furniture, household appliances, and accessories. Their stores offer lease ownership, lease, and retail sales. As of December, 2010, the company had 1813 stores in 48 states and Canada. The initial 600 shares of stock for the simulation were purchased on 5/24/11 for $27.19 per share. The overall AAN chart is shown in Figure 36 and the ATR chart is shown in Figure 37.



http://www.google.com/finance

Figure 36 AAN Historic Performance

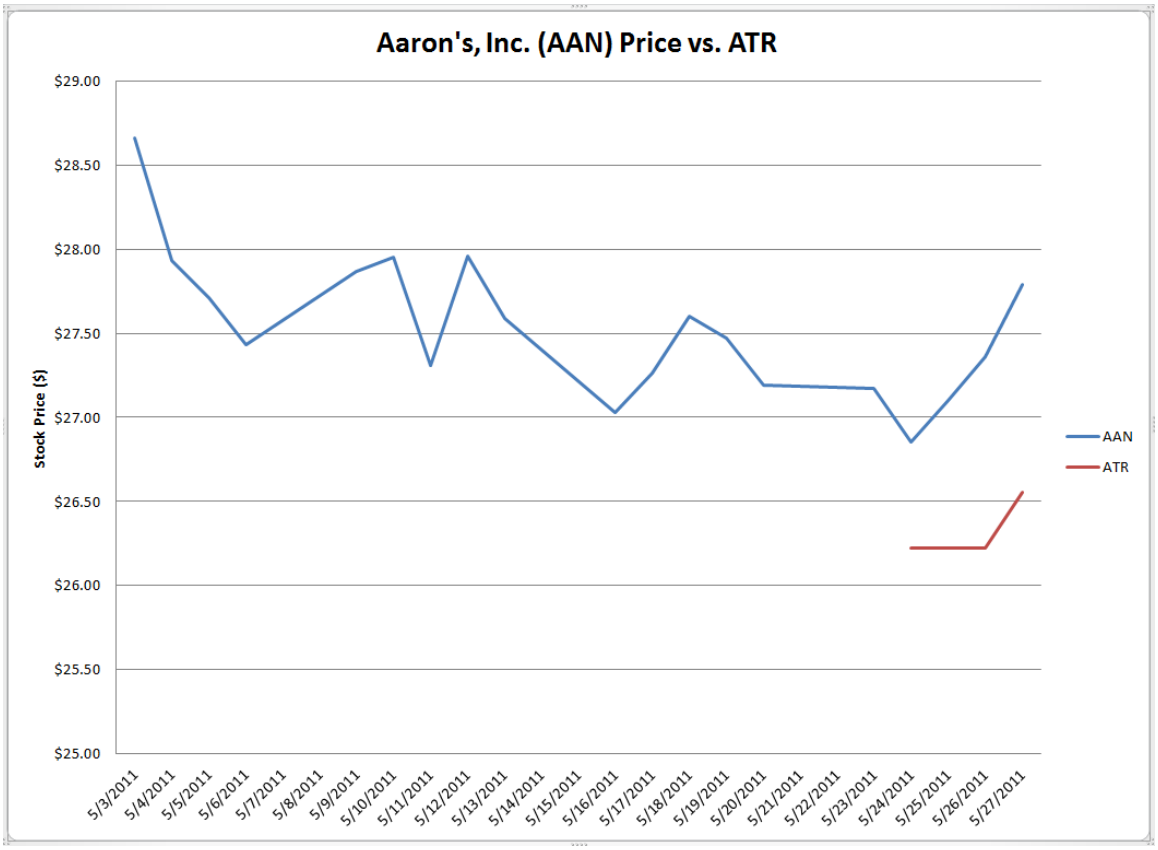
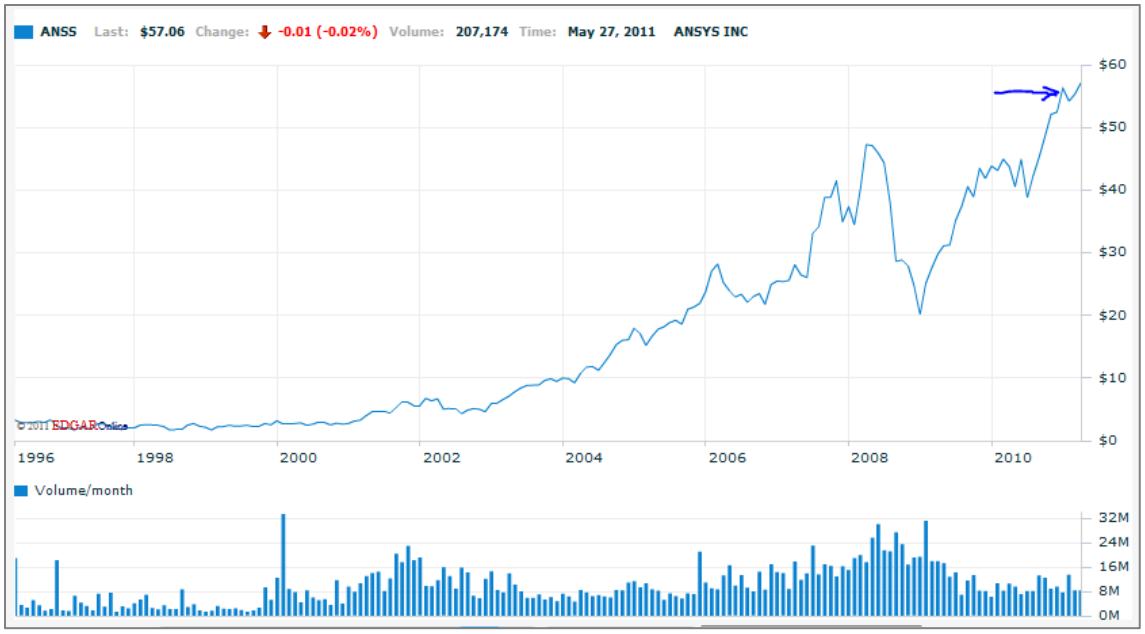


Figure 37 AAN Price vs. ATR

4.2.3 Ansys Inc. (ANSS)

Market Capital: 5.2B

Ansys Inc. develops and markets engineering simulation software and services used by engineers, designers, researchers, and students in the aerospace, automotive, manufacturing, electronics, biomedical, energy, and defense industries. The 400 shares of stock were purchased on 5/26/11 for $57.13 per share. The overall chart for ANSS is shown in Figure 38 and the ATR chart is shown in Figure 39.



http://www.google.com/finance

Figure 38 ANSS Historical Performance

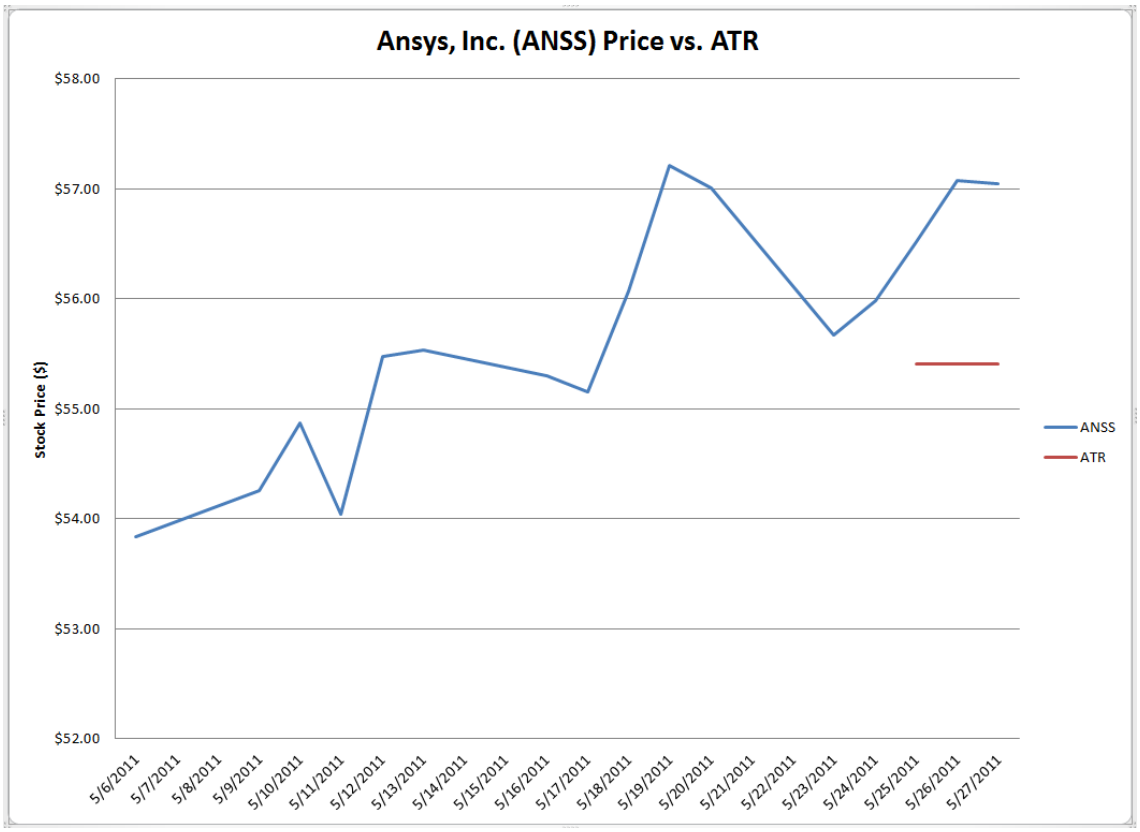


Figure 39 ANSS Price vs. ATR

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
5/23/2011											$100,000.00
5/23/2011	MAKO	Buy	$32.06	1000	$9.95	$32,060.00					$67,930.05
5/24/2011	AAN	Buy	$27.19	600	$9.95	$16,314.00					$51,606.10
5/26/2011	ANSS	Buy	$57.13	400	$9.95	$22,852.00					$28,744.15
							Total Weekly Asset/Cash				**$99,970.15**

Table 7 Stock and cash summary for ATR method week 1

4.3 Trend Following, ATR Method, SIMULATION WEEK 2

May 30, 2011 – June 3, 2011

In the ATR method, MAKO and Aaron's Inc. have been performing well over this two week period and staying over the ATR line. They have also managed to increase the ATR line during some of the stock price increases. Ansys took a sharp downturn and quickly passed below the ATR line signaling a SELL event. In order to maintain three companies in the ATR method a new one had to be added to replace Ansys Inc. (ANSS). Hansen Natural Corporation (HANS) meets the entry criteria with a closing price at or above the all-time high. A buy was placed for Monday morning, 6/6/2011 of week 3. The stock and cash summary is shown in Table 8.

4.3.1 MAKO Surgical Corporation (MAKO)

After the article on overbought stocks mentioned in section 4.2.1, the stock *did* open the week decreasing but still maintained a level greater than the ATR and showed an increase by the end of the week. The chart is shown in Figure 40. The stock closed the week at $33.06.

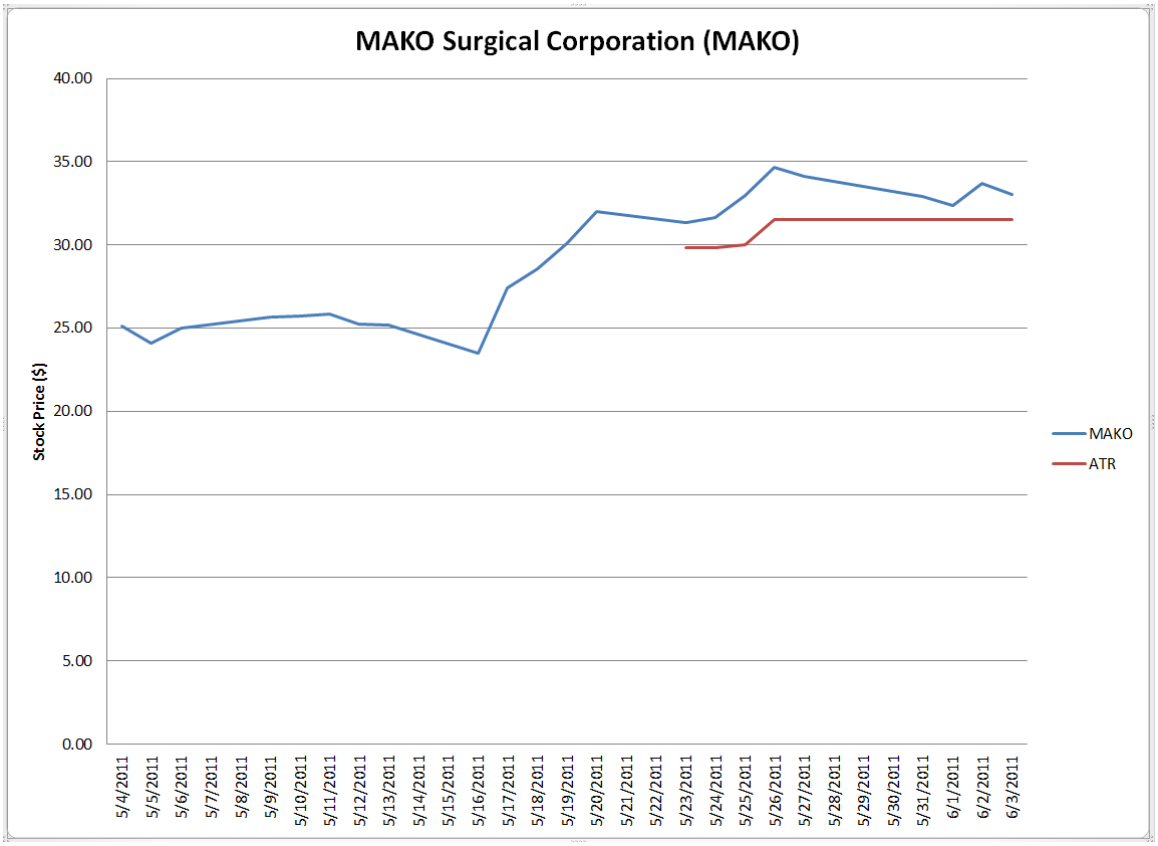


Figure 40 MAKO stock price vs. ATR for week 2

4.3.2 Aaron's, Inc. (AAN)

Aaron's was noted in a short article on Friday as one of the top 5 companies in the home furnishing industry with the best relative performance. It was also noted in an article on Thursday as one of 30 stocks expected to beat the S&P by 5 percentage points. This could have been responsible for the downturn on Thursday/Friday due to contrarian influences. The stock also paid out a $.01 dividend on Thursday, June 2. The stock closed the week at $27.60 and the chart is shown in Figure 41 below.

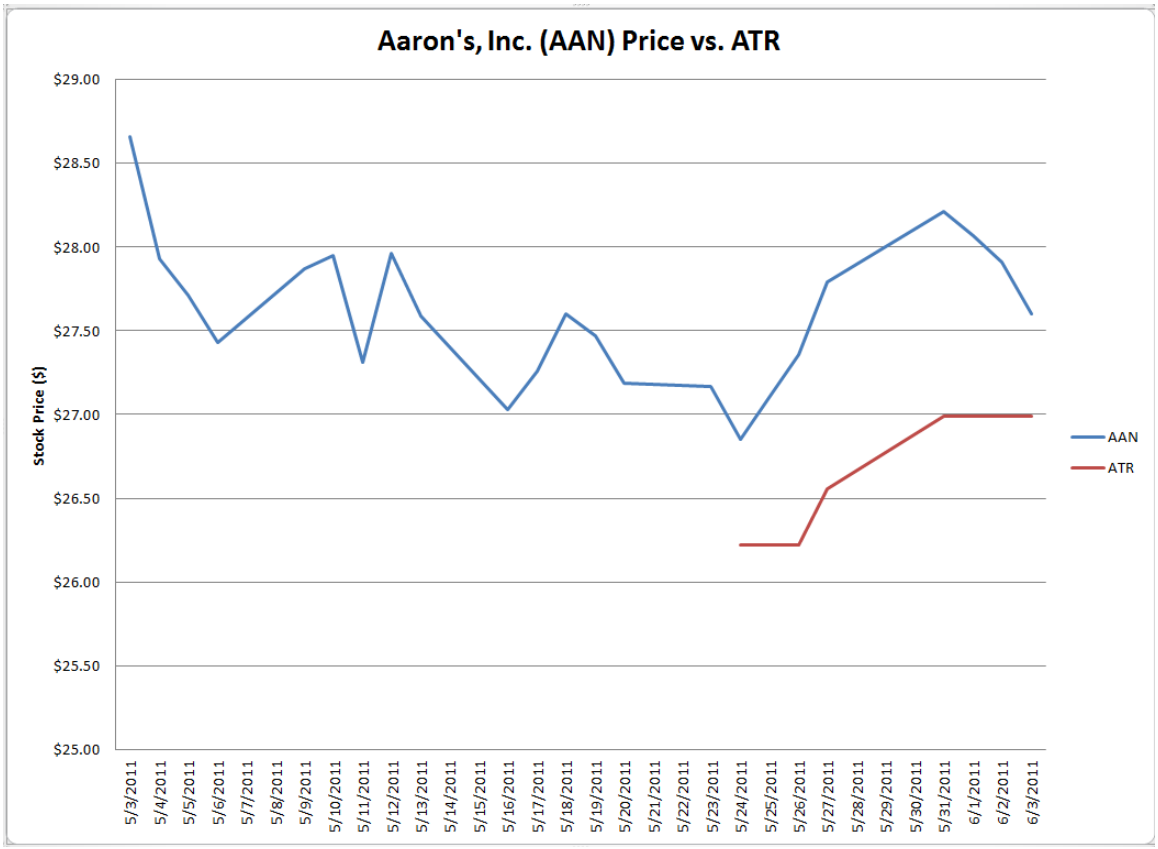


Figure 41 AAN stock price vs. ATR for week 2

4.3.3 Ansys Inc. (ANSS)

On Monday, May 30, the stock was cited as one of the application software industry companies with the highest price to forward sales ratio. This is a negative indicator for the stock. The next day it opened from the holiday weekend at a 52-week high and then declined the rest of the week. On Friday it closed at $54.69 which crossed the ATR line (shown in Figure 42). This triggers a sale according to the exit strategy and all shares were sold Monday morning, 6/6/2011 of week 3 at $54.72.

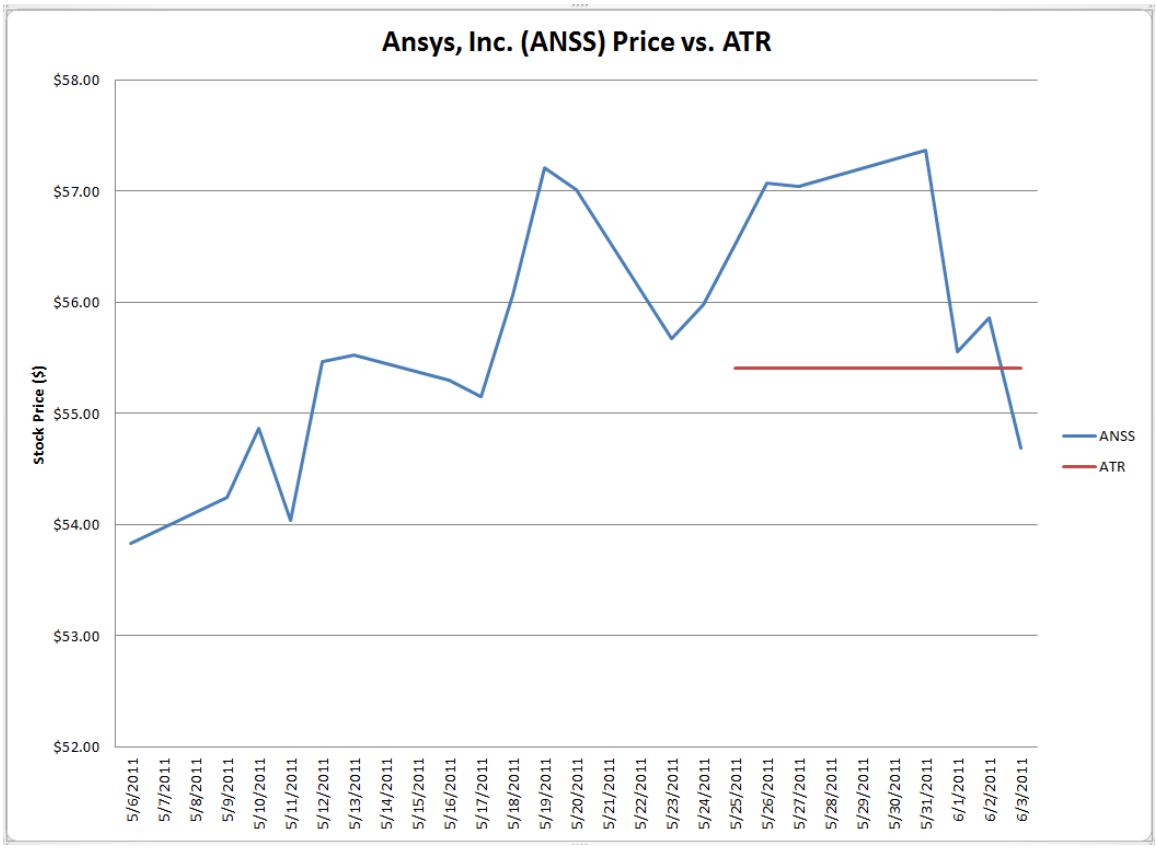


Figure 42 ANSS stock price vs. ATR for week 2

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/3/2011											$28,744.15
6/3/2011	MAKO			1000			$33.06	$33,060.00			
6/3/2011	AAN			600			$27.60	$16,560.00		$6.00	
6/3/2011	ANSS			400			$54.69	$21,876.00			
								Total Weekly Asset/Cash			**$100,246.15**

Table 8 Stock and cash summary for ATR method week 2

4.4 Trend Following, ATR Method, SIMULATION WEEK 3

June 6, 2011 – June 10, 2011

Ansys, Inc. (ANSS) had slipped below the ATR line at the end of the previous week triggering a sell for Monday morning. To offset this sell I added a new company, Hansen Natural Corporation (HANS) as a buy on Monday morning. Also during Week 3, both MAKO and AAN dropped below the ATR lines triggering sells on 6/8/2011 and 6/9/2011 respectively.

The Stock market was down for the 6th straight week this week with the Dow falling below the 12000 mark and the Nasdaq down almost 8% in the last 4 weeks. This is shown in the graph of the major indexes in Figure 43 below. At the end of this week I closed with $17,897.50 in stock and $77,914.80 for a total worth of $95,812.30. Due to the general declines of the markets, I was unable to find two other stocks that met the entry requirements of being greater than or equal to their highest price ever before entering week 4 of the simulation. The stock and cash summary is shown in Table 9.

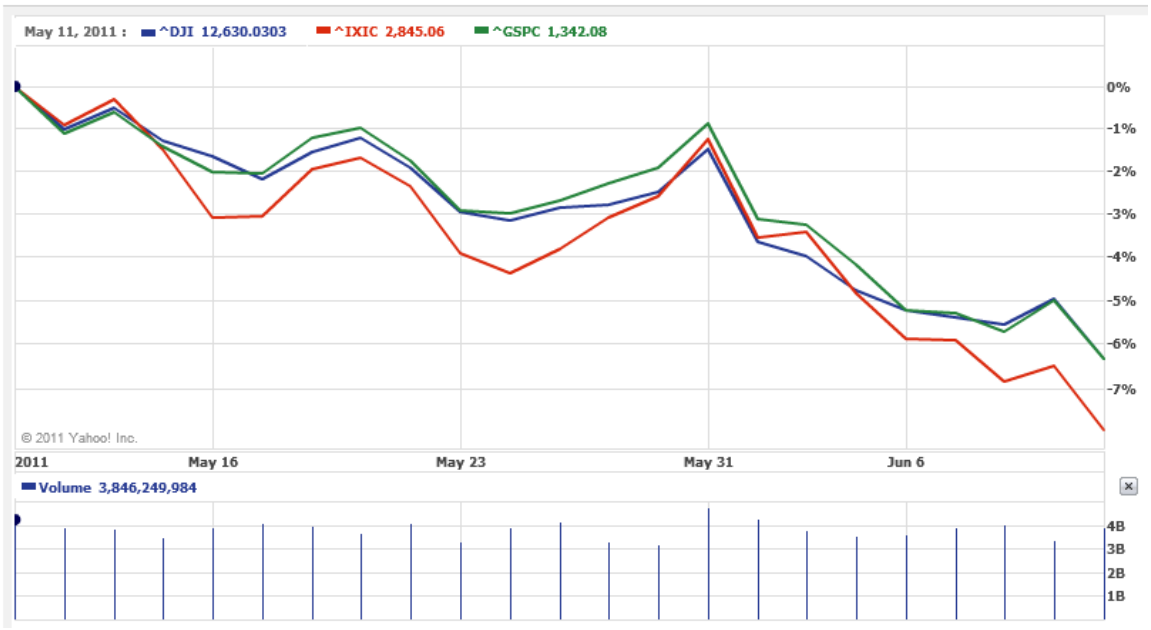


Figure 43 Major Indexes showing declines from 5/10/11 to 6/10/11

4.4.1 Hansen Natural Corporation (HANS)

Market Capital: $6.43B

Hansen Natural is a holding company which develops, markets, sells, and distributes beverages. Their main products center on energy drinks, juice based and soda beverages. Their stock closed on Friday 6/4/2011 at $72.78. Figure 44 below shows the performance over the previous 9 years. Figure 45 shows the stock performance on Monday, 6/6/2011, when the stock was purchased for $72.75.

By the end of the week some analysts had pointed out the rise of Hansen and increased their outlook for the stock while other analysts looked at a possible downward swing in the near future. Depending on the method of indicator analysis used this stock is either positioned in a slight downward swing in a general upward trend, or at the top of a larger swing cycle and poised for a downward trend. The following weeks will show which position was correct. The ATR chart is shown in Figure 46.

http://www.google.com/finance

Figure 44 Hansen Natural Corporation (HANS) prior performance

http://www.google.com/finance

Figure 45 Hansen Natural Corp. (HANS) performance on 6/6/2011

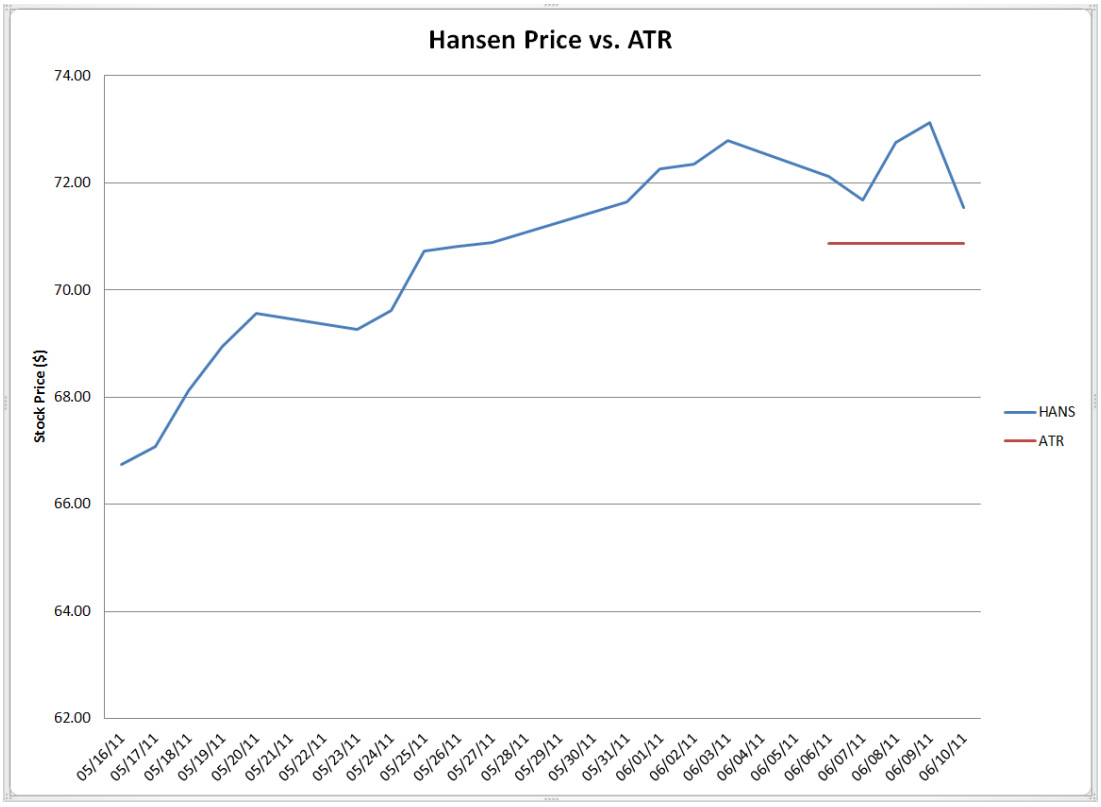


Figure 46 Hansen Natural Corp. (HANS) stock price vs. ATR at end of week 3

4.4.2 MAKO Surgical Corporation (MAKO)

After the article on overbought stocks mentioned in section 5.2.1 the stock closed the week at $33.06. Going into Week 3 the stock followed the downward trend of the market on Monday and slipped below the ATR line on Tuesday signaling a sell (shown in Figure 47). The sell was accomplished on Wednesday morning at $30.38.

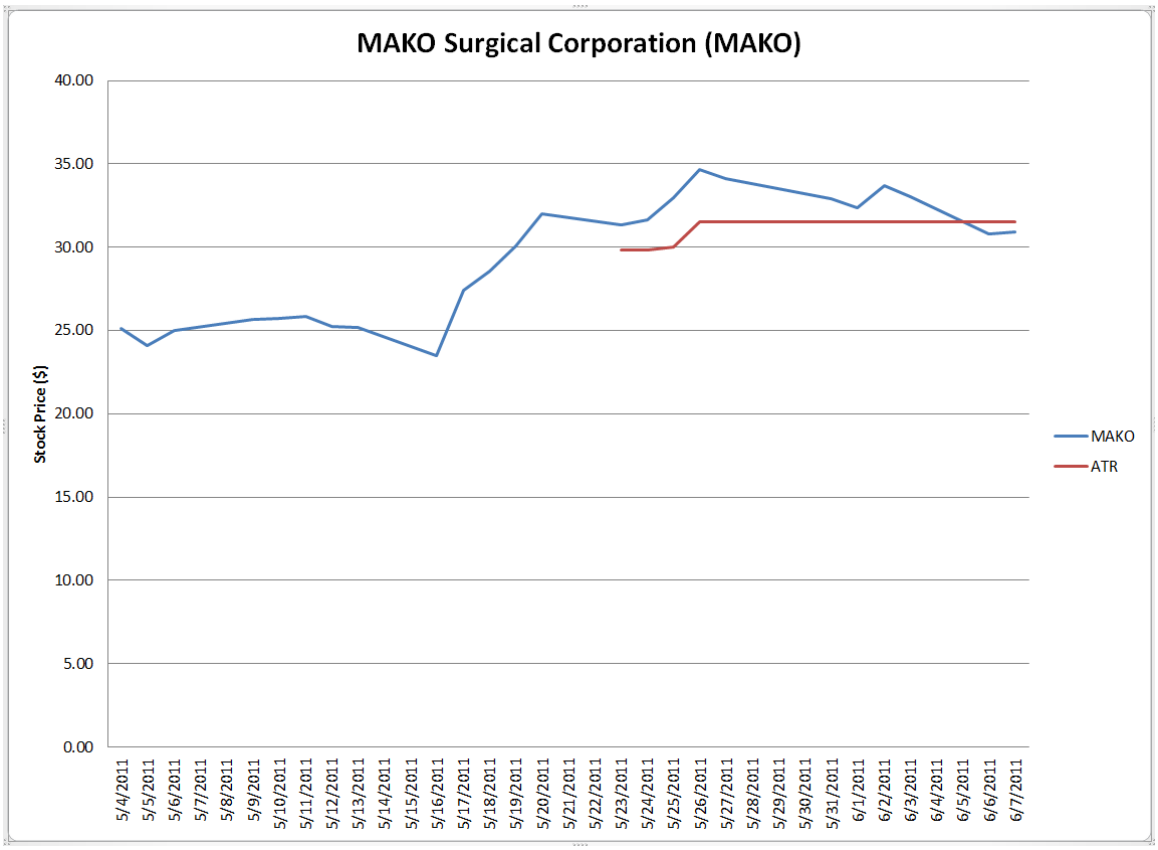


Figure 47 MAKO stock price vs. ATR for week 3

4.4.3 Aaron's Inc. (AAN)

On Wednesday, 6/8/2011, the stock dropped to $25.56 dropping the stock below the ATR line. The stock was sold on 6/9/2011 for $25.20. The final ATR chart is shown in Figure 48.

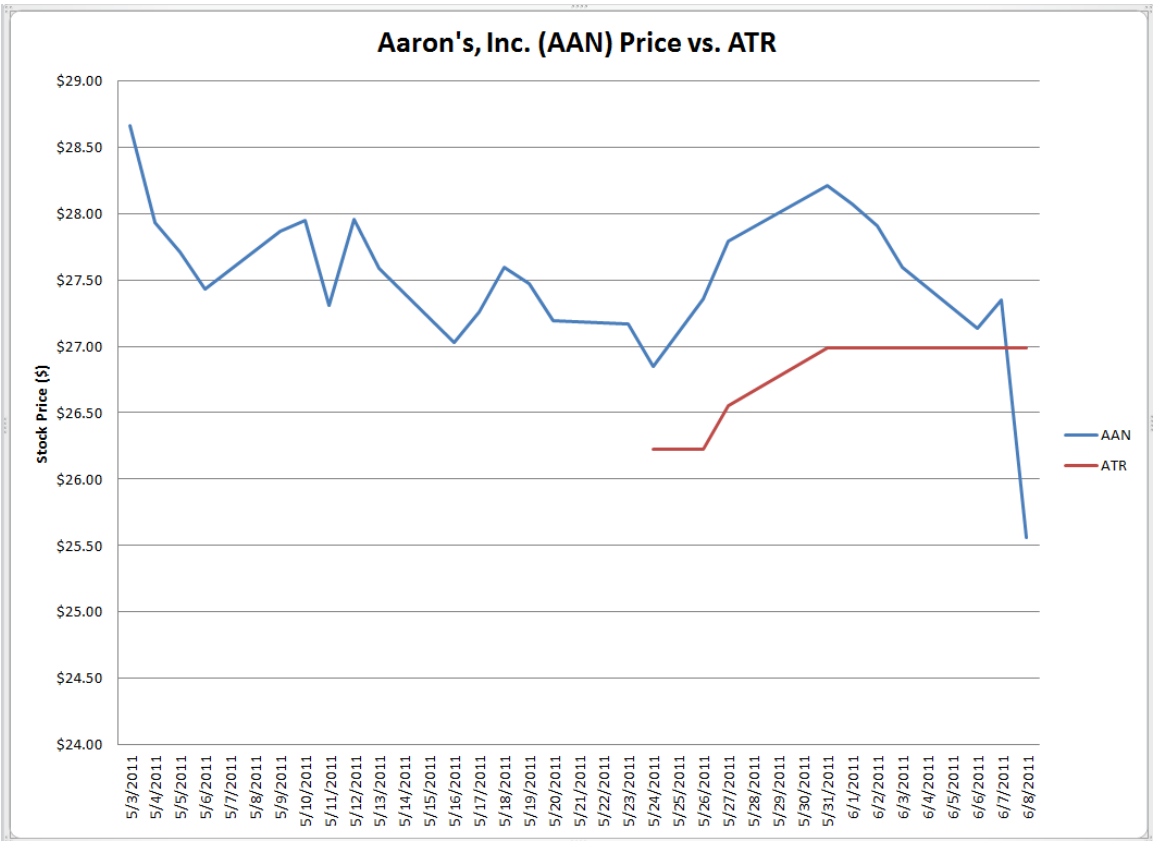


Figure 48 Aaron's stock price vs. ATR for week 3

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/6/2011											$28,744.15
6/6/2011	ANSS	Sell	$54.72	400	$9.95	$21,878.05			($973.95)		$50,622.20
6/6/2011	HANS	Buy	$72.75	300	$9.95	$21,834.95					$28,787.25
6/8/2011	MAKO	Sell	$30.38	1000	$9.95	$30,370.05			($1,689.95)		$59,157.30
6/9/2011	AAN	Sell	$25.20	600	$9.95	$15,110.05			($1,203.95)		$74,267.35
6/10/2011	HANS			300			$71.59	$21,477.00			
								Total Weekly Asset/Cash			$95,744.35

Table 9 Stock and cash summary for ATR method week 3

4.5 Trend Following, ATR Method, SIMULATION WEEK 4

June 13, 2011 – June 17, 2011

This week the markets continued to slide but had a slight recovery at the end of the week. The few new companies to reach all-time highs immediately suffered drops due to the market conditions. Therefore, I decided to watch several of the companies but hold off on buying until week 5. One of these companies is Comcast Corporation 7% Notes (CCW). During week 4 they were very close to their all-time high and on an upward trend. The stock and cash summary is shown in Table 10.

4.5.1 Hansen Natural Corporation (HANS)

Hansen Natural Corp. continued to have good press the entire week. In general, it is consistently listed as one of the soft drink companies with good performance and a positive future. The stock price did touch on the ATR line (shown in Figure 49) but due to the market conditions and general optimism of a recovery, I left it in place an extra day for confirmation and it ended up recovering.

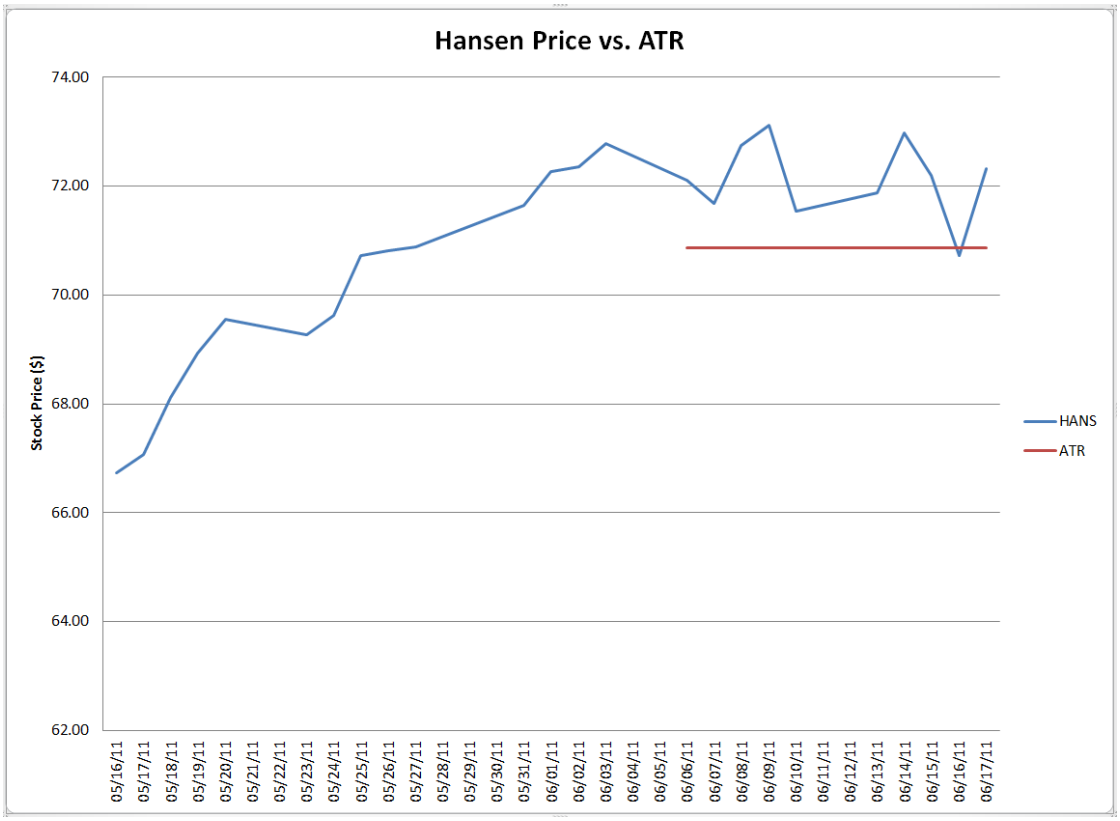


Figure 49 Hansen stock price vs. ATR for Week 4

4.6.1 Comcast Corporation 7% Notes (CCW)

Comcast is one of the nation's largest providers of information technologies and cable services including high-speed internet and telephone services. CCW is a listed debt security of Comcast Corporation. It is the ticker symbol for 7.00% Series B Notes issued by Comcast on September 1, 2006. These notes pay 7.00% annual interest quarterly and they may be redeemed at any time after September 15, 2011. These securities are traded on the NYSE and the chart is shown in Figure 50.

Figure 50 Comcast Corporation Notes (CCW)

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/13/2011											$74,267.35
6/17/2011	HANS			300			$72.31	$21,693.00			
								Total Weekly Asset/Cash			$95,960.35

Table 10 Stock and cash summary for ATR method week 5

4.6 Trend Following, ATR Method, SIMULATION WEEK 5

June 20, 2011 – June 24, 2011

Prior to the start of the trading week I was able to find several stocks that had come close or surpassed their all-time highs. I put buy orders in for Monday morning, 6/20/2011, but at smaller amounts than previously used. This will allow me to move into more stocks in case of further losses. The stock and cash summary for week 5 is shown in Table 11.

4.6.1 Hansen Natural Corporation (HANS)

Hansen continued to receive good press this week and the ATR method was able to step up the ATR line twice during the week. The stock closed at $78.05 for the week. The ATR chart is shown in Figure 51.

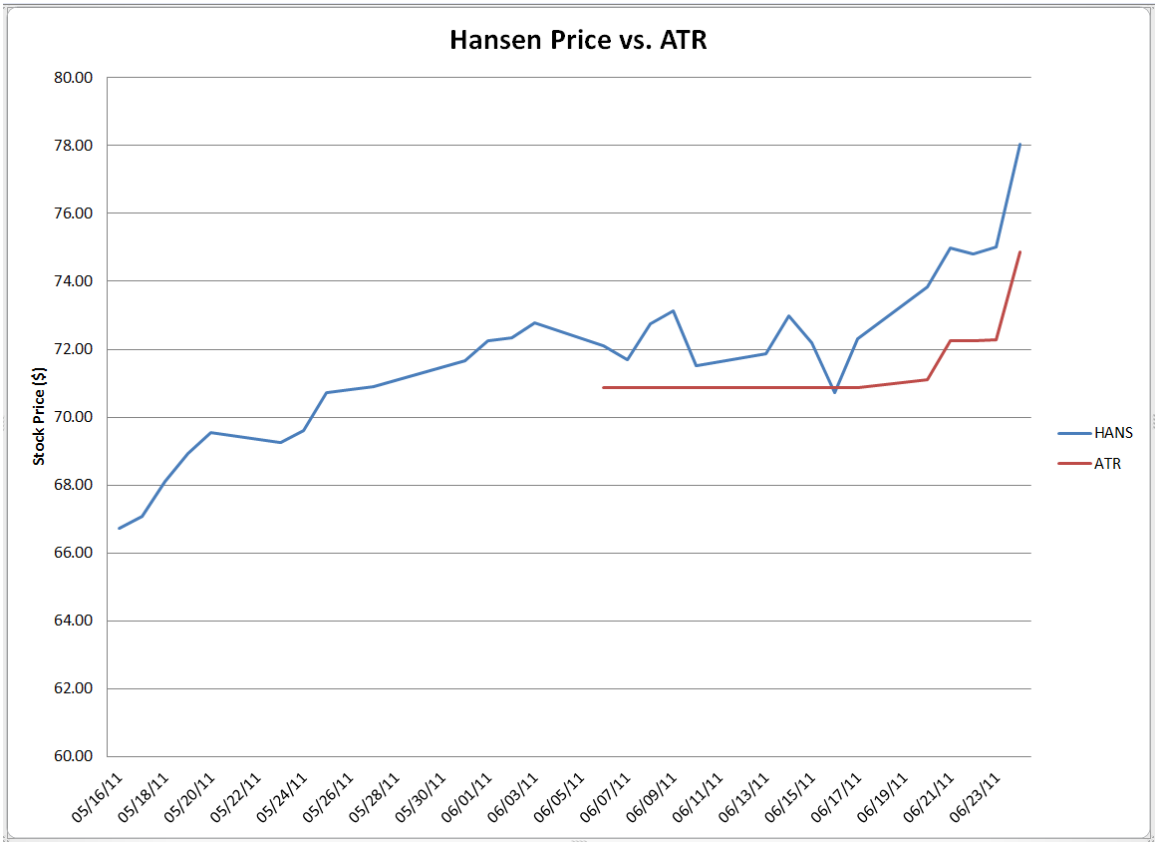


Figure 51 Hansen stock price vs. ATR for week 5

4.6.2 Watson Pharmaceuticals, Inc. (WPI)

Watson Pharmaceuticals, Inc. is a specialty pharmaceutical company that develops, manufactures, markets, sells, and distributes both generic and brand products that focus on women's health in the U.S., western Europe, Canada, Australia, South America, and South Africa. The company was founded in 1983 and is based in Parsippany, NJ.

On 6/20/2011, 150 shares were purchased at $63.70. The initial ATR line was calculated with a 3.5% gap. The stock closed the week at $65.66. The ATR chart is shown in Figure 52.

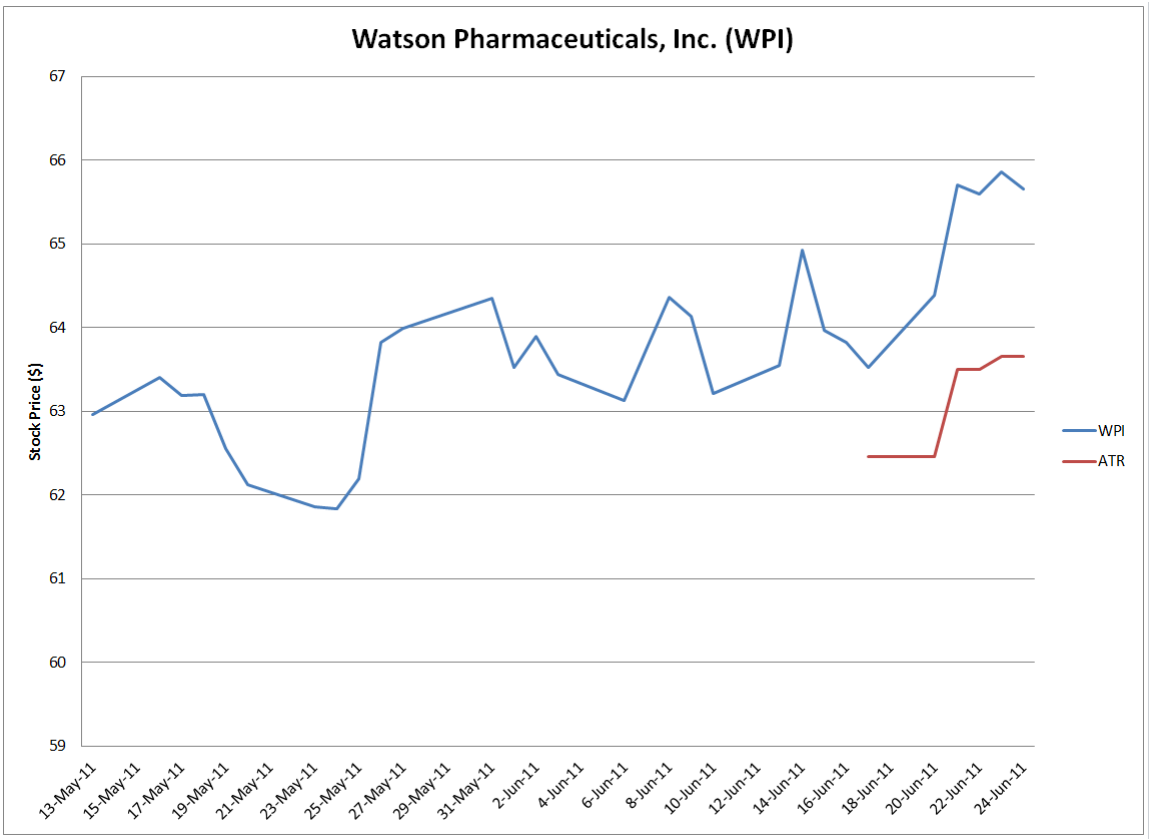


Figure 52 Watson Pharmaceuticals stock price vs. ATR for week 5

4.6.3 Cash America International. Inc. (CSH)

Cash America International, Inc. provides specialty financial services to individuals in the U.S. and Mexico. The company operates in three segments; pawn lending, cash advance, and check cashing. The company was founded in 1984 and is based in Fort Worth, Texas.

On 6/20/2011, 200 shares were purchased at $51.58. The stock closed out the week at $54.07 and the ATR chart is shown below in Figure 53.

Figure 53 Cash International stock price vs. ATR for week 5

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/20/2011											$74,267.35
6/20/2011	WPI	Buy	$63.70	150	$9.95	$9,564.95					$64,702.40
6/20/2011	CSH	Buy	$51.58	200	$9.95	$10,325.95					$54,376.45
6/24/2011	HANS			300			$78.05	$23,415.00			
6/24/2011	WPI			150			$65.66	$9,849.00			
6/24/2011	CSH			200			$54.07	$10,814.00			
								Total Weekly Asset/Cash			**$98,454.45**

Table 11 Stock and cash summary for ATR method week 5

4.7 Trend Following, ATR Method, SIMULATION WEEK 6

June 27, 2011 – July 1, 2011

This week saw appreciable gains in all 3 stocks held as well as the addition of 2 more stocks to the ATR method. The purchase of the additional two stocks brought the available cash on hand down to less than $3000 but the portfolio closed the week at a combined stock/cash value of $104,196.

4.7.1 Hansen Natural Corporation (HANS)

On Monday 6/27/11 the stock price rose to a close of $79.11. This resulted in a shift of the ATR line to $75.91. On 6/28/11 the price rose again to close at $80.24 shifting the ATR line to $77.02. A stop-limit order was placed on 6/29/11 at the ATR value to limit any losses. The stop-limit was adjusted again on Friday as the stock closed at $83.63 for the week. The ATR chart is shown in Figure 54.

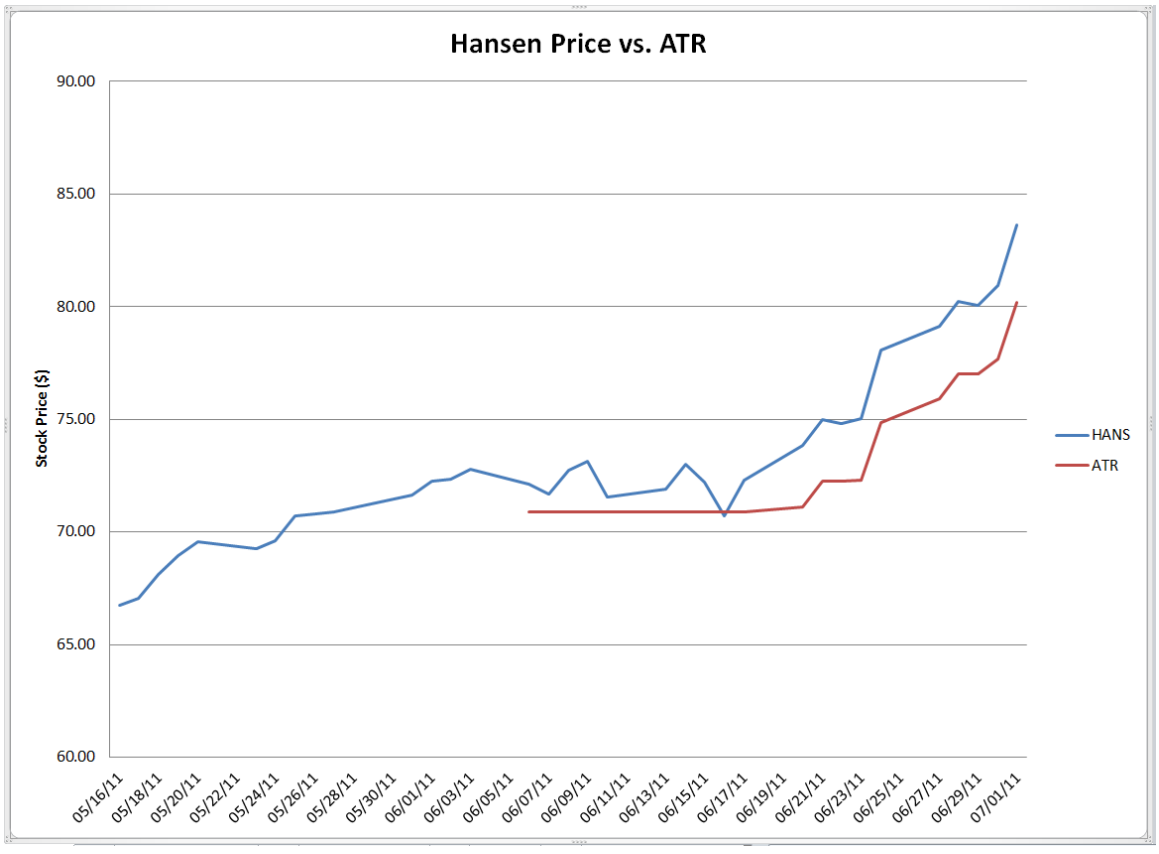


Figure 54 Hansen stock price vs. ATR for week 6

4.7.2 Watson Pharmaceuticals, Inc. (WPI)

Monday saw WPI close down slightly at $65.45. Tuesday was a substantial increase to $68.20 followed by a close at $68.17 on Wednesday 6/29/11. This also shifted the ATR line to $65.81. A stop-limit order was placed on 6/29/11 at the ATR value. The stop-limit was adjusted again on Friday as the stock closed out the week at $69.85. The ATR chart is shown in Figure 55.

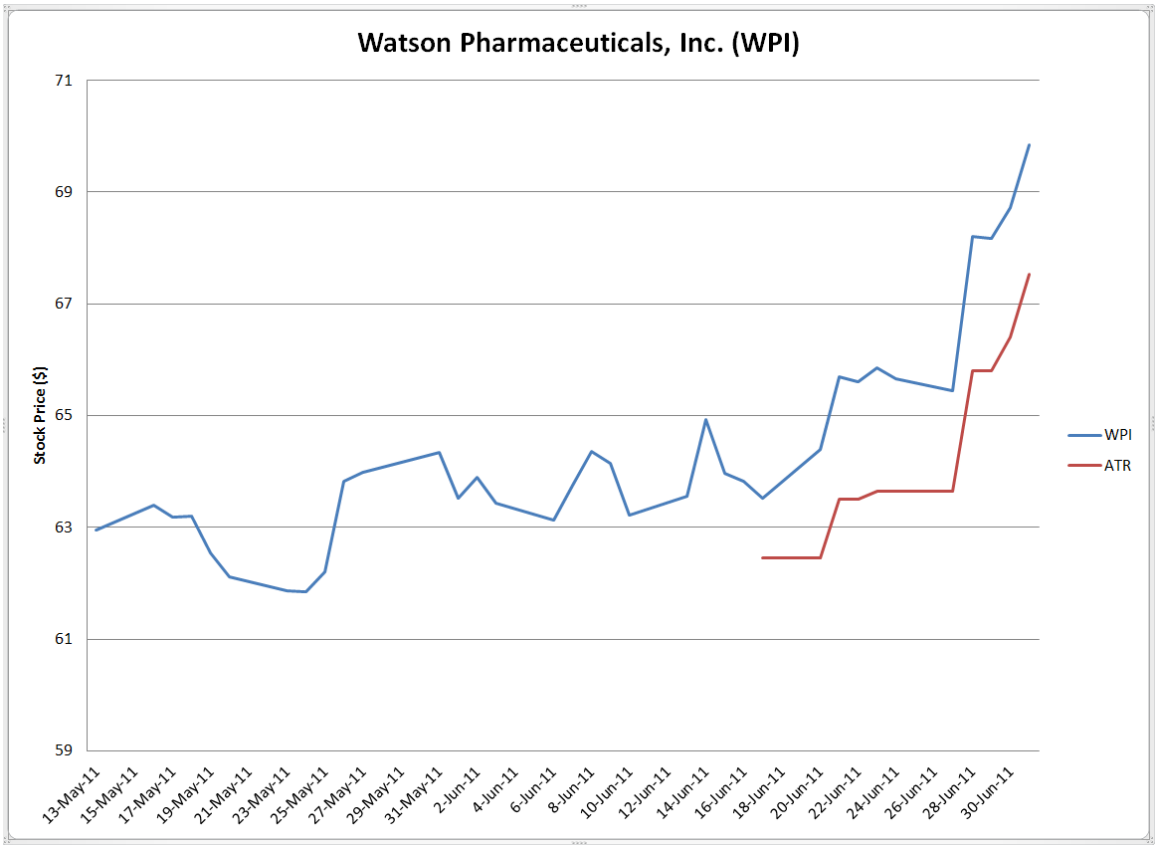


Figure 55 Watson Pharmaceuticals stock price vs. ATR for week 6

4.7.3 Cash America International. Inc. (CSH)

On Monday 6/27/11 the stock price rose to a close of $55.23. This resulted in a shift of the ATR line to $52.83. On 6/28/11 the price closed at $56.26 with a corresponding shift of the ATR line to $53.88. On 6/29/11 it closed up again with a shift in ATR to $54.68. A stop-limit order was placed at the

ATR value to protect the asset. The stop-limit was adjusted again at the end of the week to meet the new ATR as the stock closed at $59.06. The week's final ATR chart is shown in Figure 56.

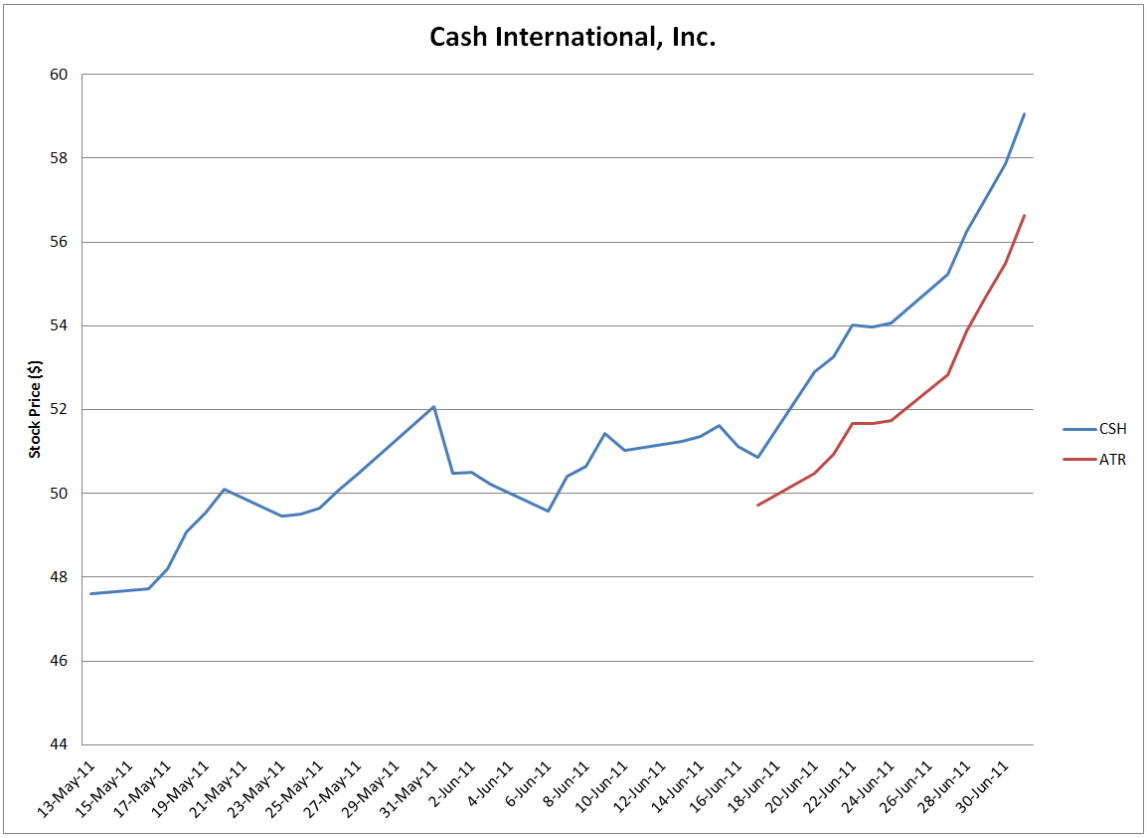


Figure 56 Cash International stock price vs. ATR for week 6

4.7.4 Dollar Tree, Inc. (DLTR)

Dollar Tree, Inc. is an operator of discount stores that offer merchandise at a fixed price of $1. As of January 29, 2011 they had 4101 stores in the United States and Canada. The stock was identified in a scan I ran this week as trending upward and above its all-time high. I added 400 shares on 6/27/2011 for $65.61 per share. The stock closed the week at $68.23 and the ATR chart is shown in Figure 57.

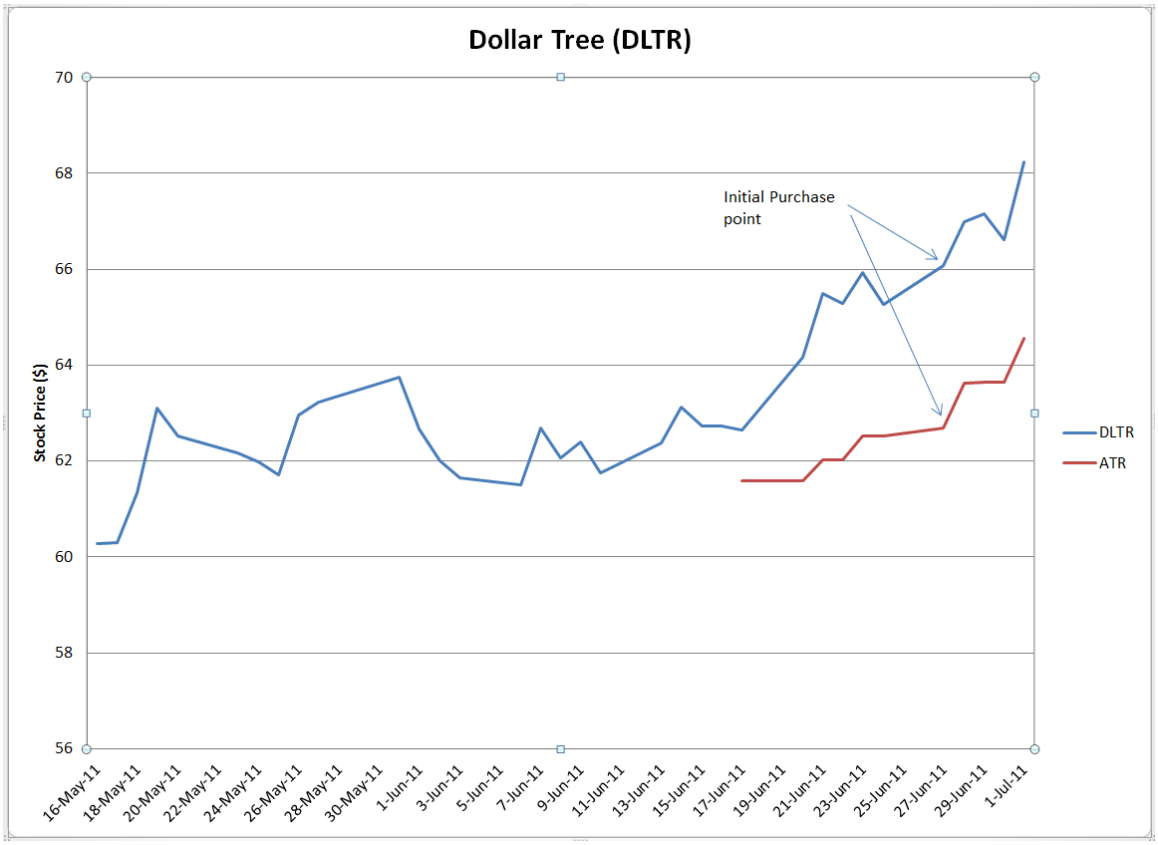


Figure 57 Dollar Tree (DLTR) stock price vs. ATR for week 6

4.7.5 Peet's Coffee & Tea, Inc. (PEET)

Peet's Coffee & Tea, Inc. is a specialty coffee roaster. They produce and market fresh roasted whole bean coffee and tea. The product is sold through multiple distribution channels such as grocery stores, restaurant and food service companies, and home delivery. As of January 2010 the company had 192 retail stores in six states. This stock was selected from a scan this week as trending upward and surpassing its all-time high. I purchased 450 shares at $56.28 on 6/27/2011. The stock closed the week at $59.42 and the ATR chart is shown in Figure 58.

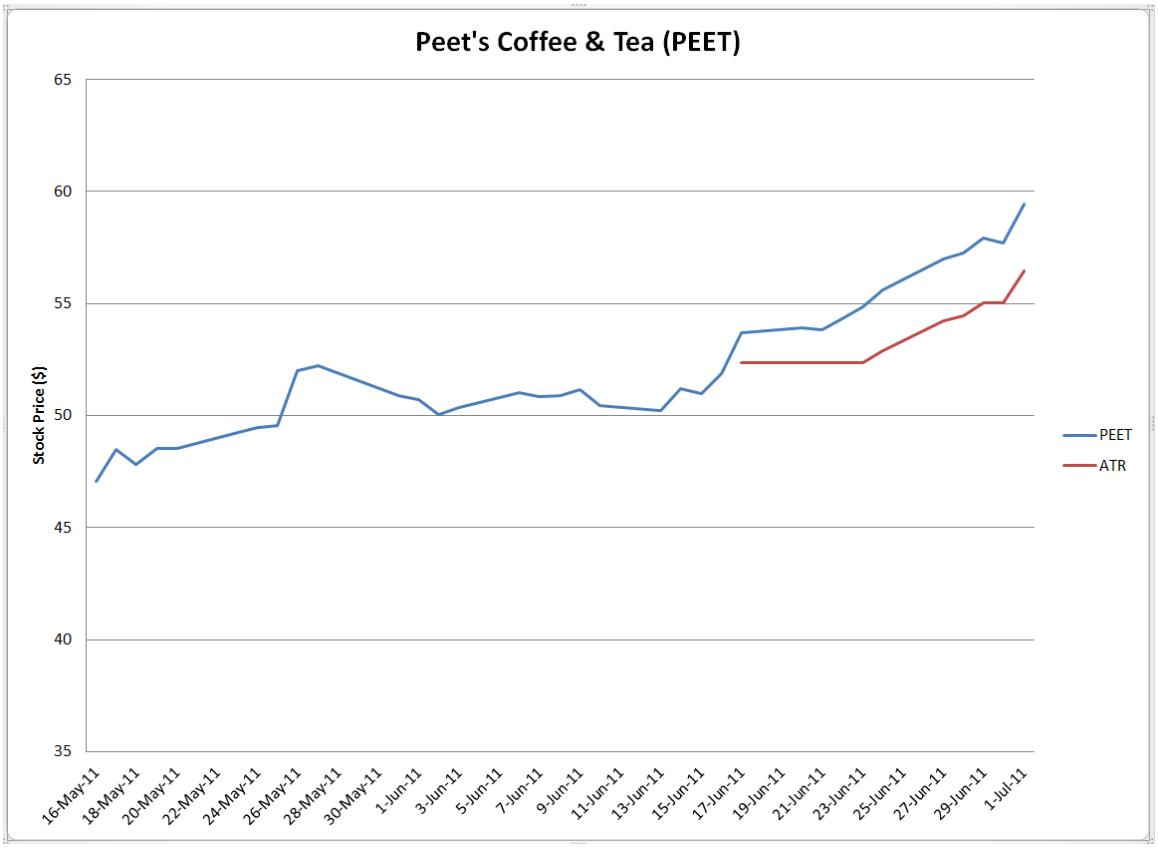


Figure 58 Peet's Coffee & Tea (PEET) stock price vs. ATR for week 6

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/27/2011											$54,376.45
6/27/2011	DLTR	Buy	$65.61	400	$9.95	$26,253.95					$28,122.50
6/27/2011	PEET	Buy	$56.28	450	$9.95	$25,335.95					$2,786.55
7/1/2011	HANS			300			$83.63	$25,089.00			
7/1/2011	WPI			150			$69.85	$10,477.50			
7/1/2011	CSH			200			$59.06	$11,812.00			
7/1/2011	DLTR			400			$68.23	$27,292.00			
7/1/2011	PEET			450			$57.00	$25,650.00			
								Total Weekly Asset/Cash			**$103,107.05**

Table 12 Stock and cash summary for ATR method week 6

4.8 Trend Following, ATR Method, SIMULATION WEEK 7

July 5, 2011 – July 8, 2011

This week Hansen (HANS) and Cash America (CSH) sold when the prices dipped down below the ATR lines.

4.8.1 Hansen Natural Corporation (HANS)

On 7/8/11 the stock price opened and closed within a narrow range of $80.70 - $81.00 but dropped much more than that during the day. The low for the day was $78.25 which triggered the stop-limit order at $80.16. The resulting hammer is shown in the candlestick graph in Figure 60 below. The total gain for this stock over the 3 weeks it was held was $2,203.10. The final ATR chart is shown in Figure 59.

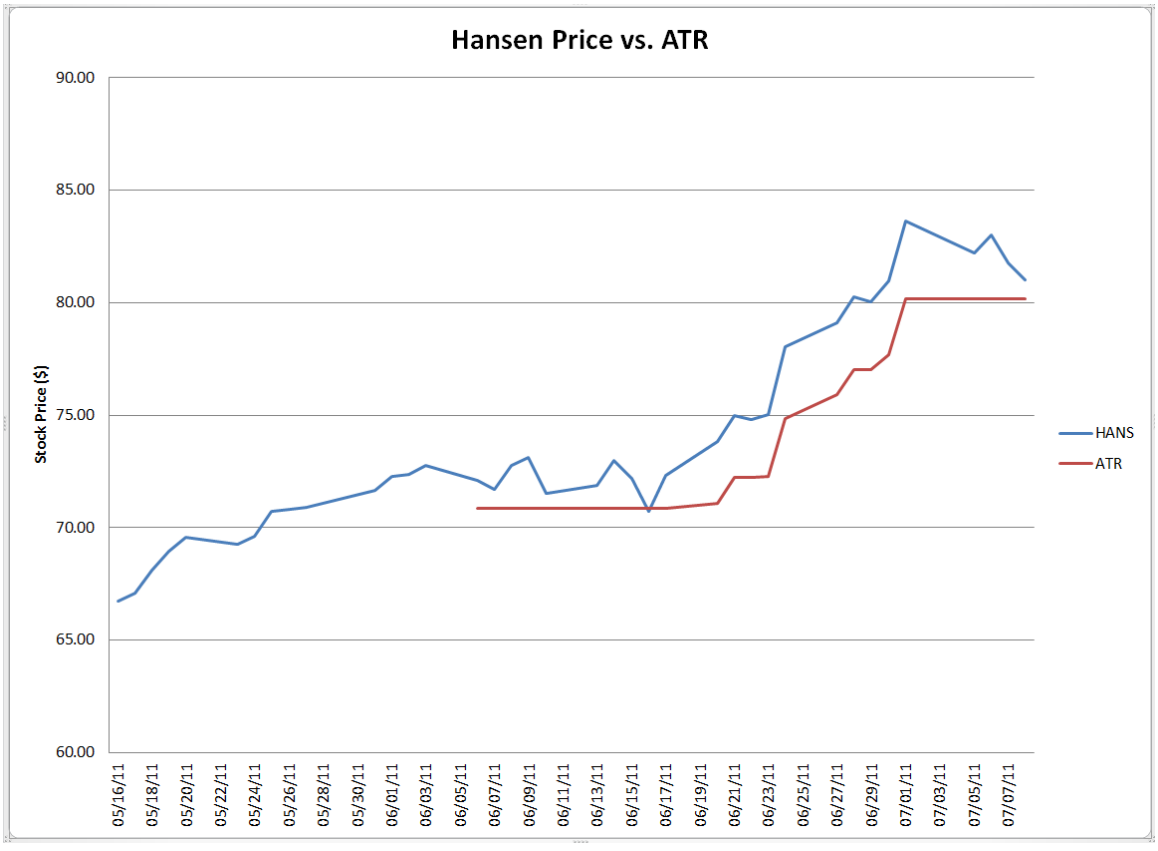


Figure 59 Hansen (HANS) stock price vs. ATR for week 7

Figure 60 Hansen Natural (HANS) stock price up to date of sale

4.8.2 Watson Pharmaceuticals, Inc. (WPI)

WPI had some big fluctuations during the week but managed to stay above the stop limit. The stop-limit was adjusted as required to match the increases. The stock closed at $69.85 with an ATR of $67.96. The updated ATR chart is shown in Figure 61.

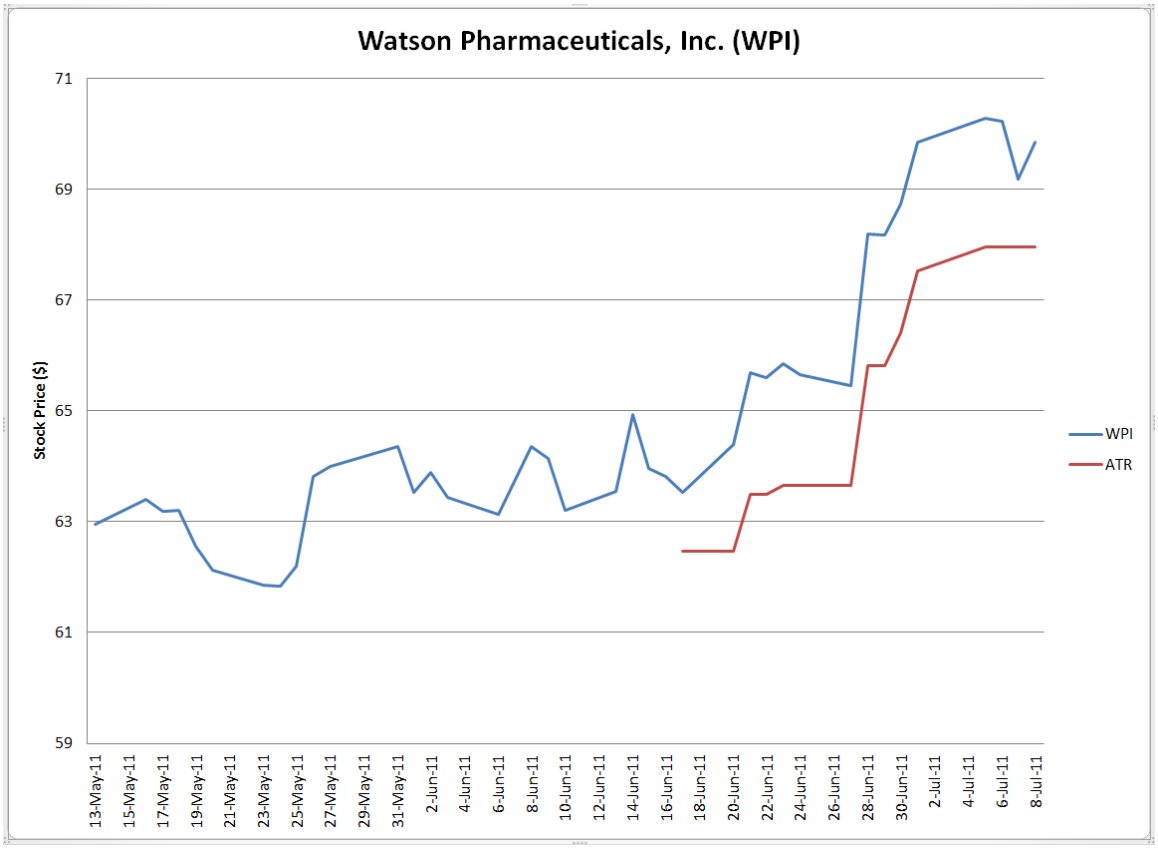


Figure 61 Watson Pharmaceuticals (WPI) stock price vs. ATR for week 7

4.8.3 Cash America International. Inc. (CSH)

This week the stock had a negative day. Trading this day formed a hammer and the tail cleared out a lot of positions as shown by the very high volume that day. This can be seen in Figure 63 below. It also cleared out my position since the stop-limit was set at $57.31. The total gain from Cash America was $1,126.10. The final ATR chart is shown in Figure 62.

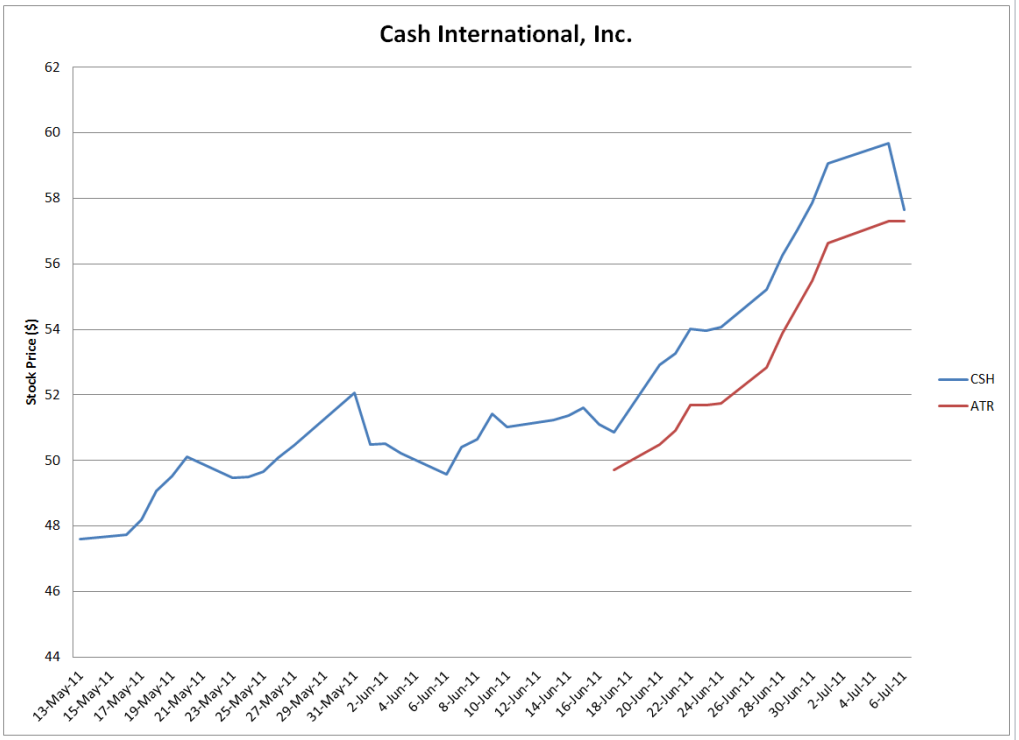


Figure 62 Cash International (CSH) stock price vs. ATR for week 7

Figure 63 Cash America International stock price showing the tail that cleared the stop-limit

4.8.4 Dollar Tree, Inc. (DLTR)

Dollar Tree stock continued to trend up through the week except for Friday. Overall it posted gains for the week and closed the week at $69.88. The stop-limit was changed to $66.63 at the end of the week. The ATR chart is shown in Figure 64.

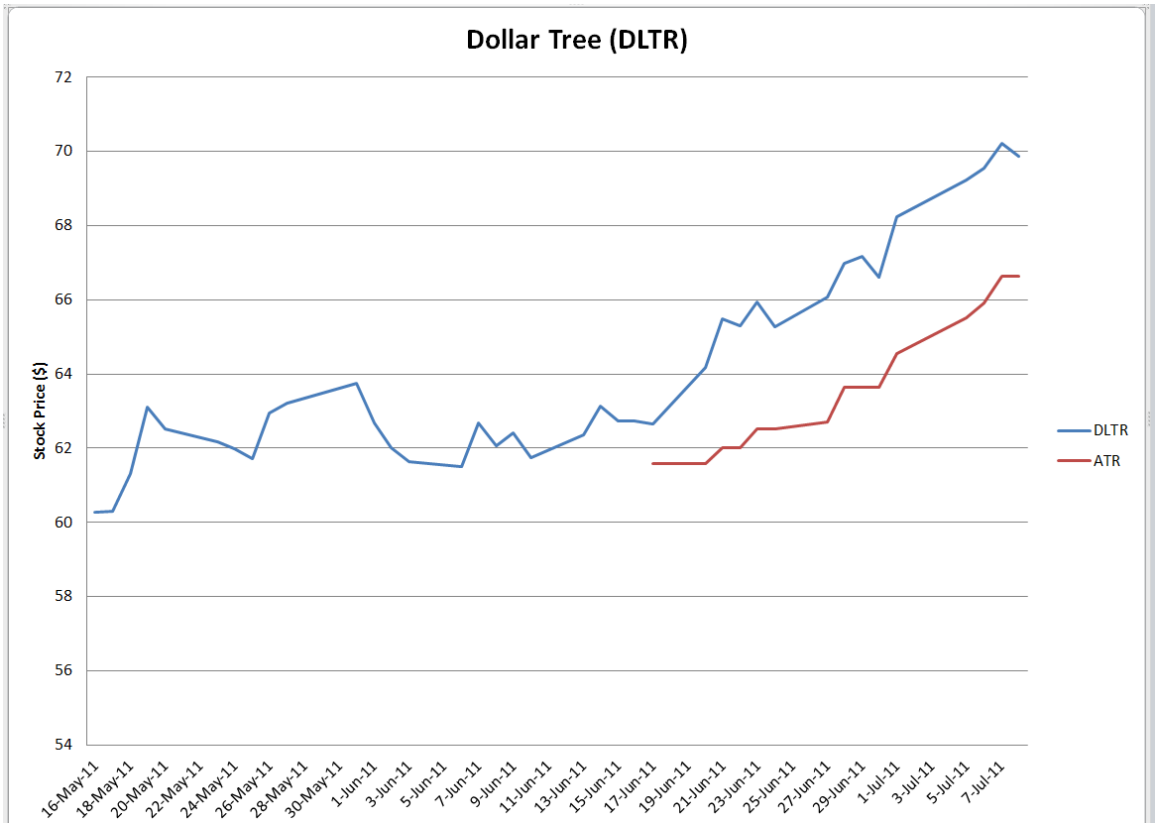


Figure 64 Dollar Tree (DLTR) stock price vs. ATR for week 7

4.8.5 Peet's Coffee & Tea, Inc. (PEET)

Peet's stock gained three of the four days this week to close the week at $62.01. This put our stop-limit at $58.93 to match the ATR. The week ending ATR chart is shown in Figure 65.

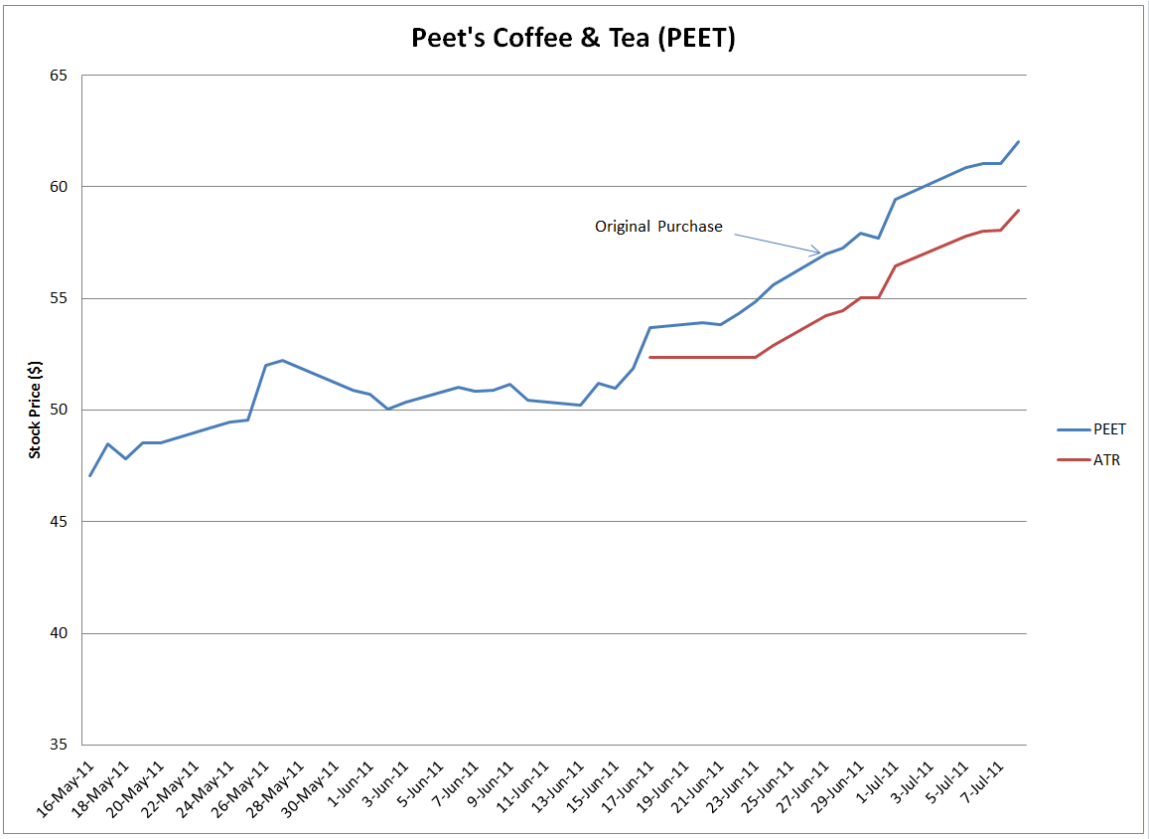


Figure 65 Peet's Coffee & Tea (PEET) stock price vs. ATR for week 7

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/5/2011											$2,786.55
7/6/2011	CSH	Sell	$57.31	200	$9.95	$11,452.05			$1,126.10		$14,238.60
7/8/2011	HANS	Sell	$80.16	300	$9.95	$24,038.05			$2,203.10		$38,276.65
7/8/2011	WPI			150			$69.85	$10,477.50			
7/8/2011	DLTR			400			$69.88	$27,952.00			
7/8/2011	PEET			450			$62.01	$27,904.50			
								Total Weekly Asset/Cash			**$104,610.65**

Table 13 Stock and cash summary for ATR method week 7

4.9 Trend Following, ATR Method, SIMULATION WEEK 8

July 11, 2011 – July 15, 2011

This week the markets continued to be affected by the uncertainties surrounding the debates in Congress concerning the Debt Ceiling. This uncertainty caused a lot of short term fluctuation as investors looked to short term gains as opposed to any longer term investing. Since I was holding over $38,000 cash at the end of the previous week I added another stock, Ariad Pharmaceuticals.

4.9.1 Watson Pharmaceuticals, Inc. (WPI)

WPI started off this week with a stop-loss order in place for $67.96. The stock fluctuated throughout the week, but fortunately within a narrow range. The stock closed the week at $69.00 with the ATR still in place at $67.96. The ATR chart is shown in Figure 66.

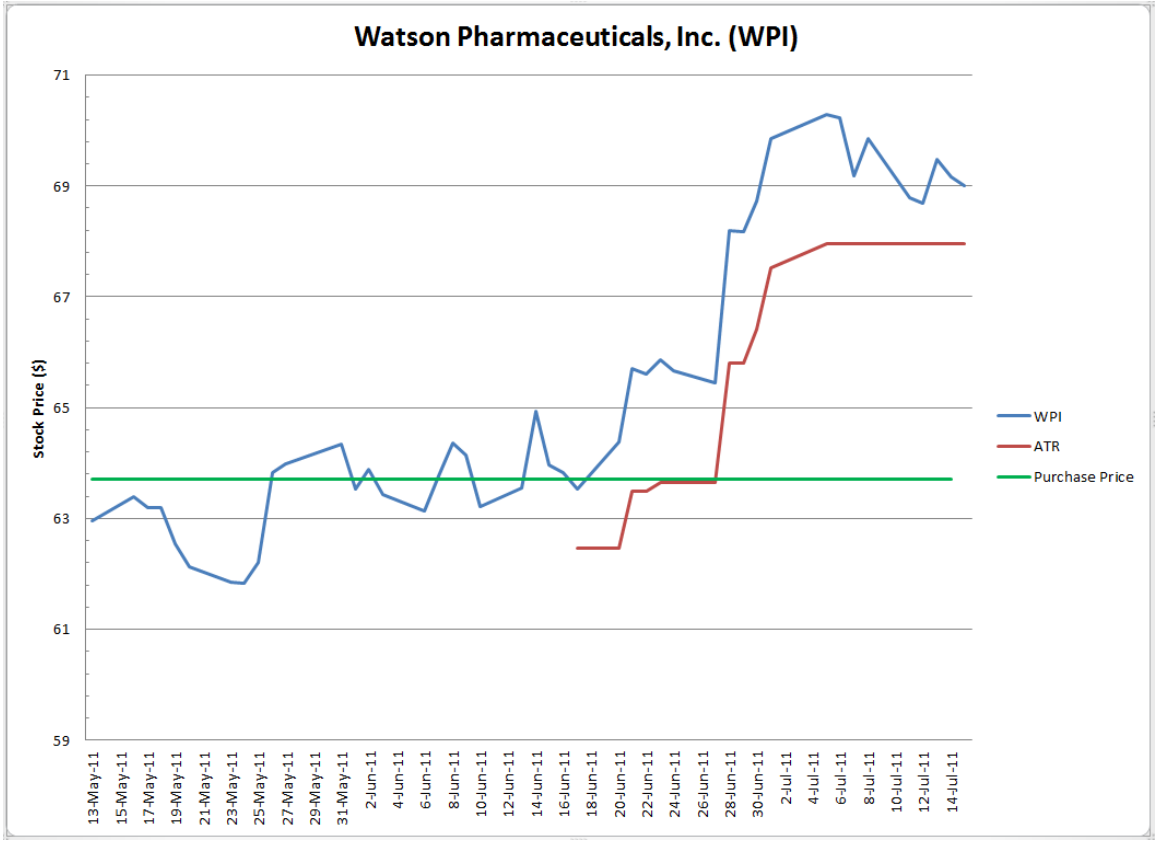


Figure 66 Watson Pharmaceuticals (WPI) stock price vs. ATR for week 8

4.9.2 Dollar Tree, Inc. (DLTR)

Dollar Tree started this week with a stop-loss order in place for $66.63. The stock suffered just like the markets from fluctuations this week and closed down at $68.83. The ATR didn't change this week as shown in the ATR chart in Figure 67.

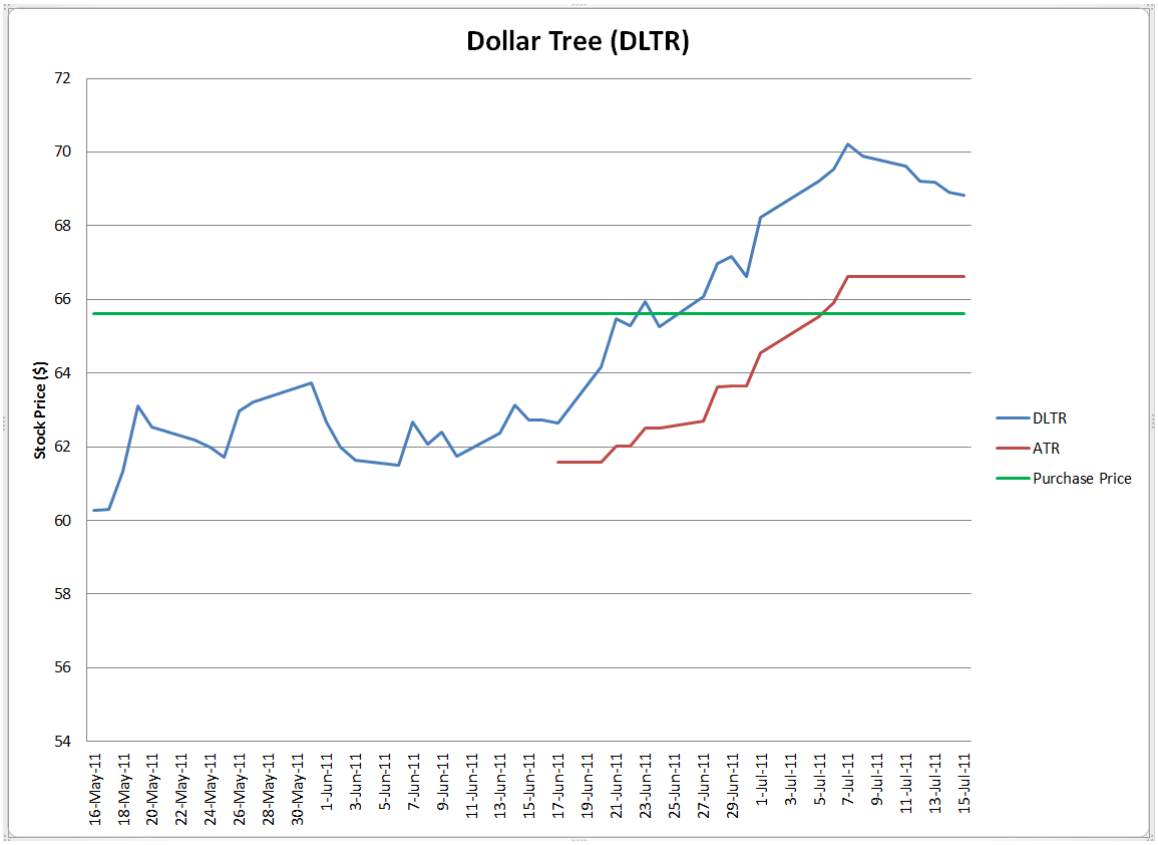


Figure 67 Dollar Tree (DLTR) stock price vs. ATR for week 8

4.9.3 Peet's Coffee & Tea, Inc. (PEET)

Peet's started the week with a stop-loss order of $58.93. The stock was on a downward trend this week with some major indecision on Wednesday. Friday turned more optimistic with its only gains for the week. The stock closed down for the week at $60.31 and the ATR still at $58.93. The ATR chart is shown in Figure 68.

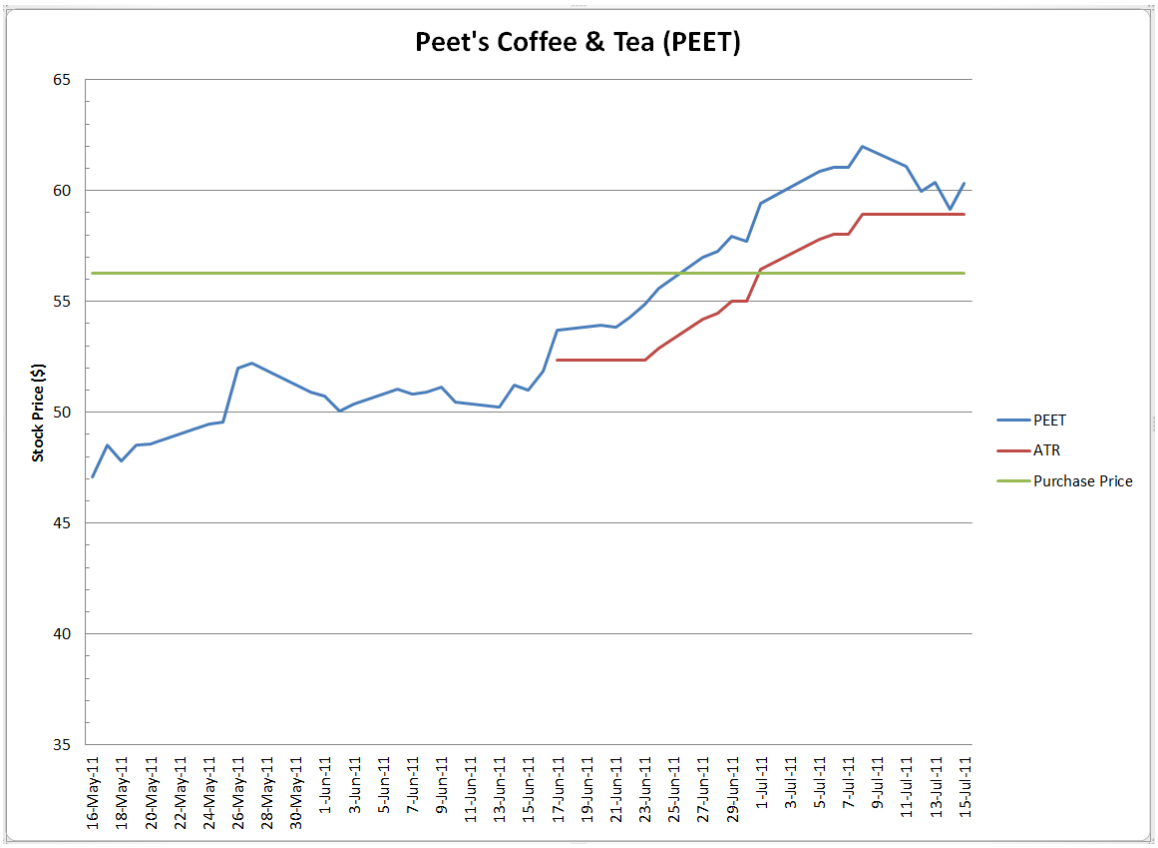


Figure 68 Peet's Coffee & Tea (PEET) stock price vs. ATR for week 8

4.9.4 Ariad Pharmaceuticals, Inc. (ARIA)

Ariad Pharmaceuticals is a biopharmaceutical company that researches and develops drugs for the therapeutic intervention in human diseases at the cellular level. I found the stock on a scan for the highest price in the last 10 years. One thousand shares were purchased on 7/11/11 at $12.22. The initial ATR was calculated at 5% to be $11.73. The stock closed up for the week at $12.58 with an ATR of $12.07. The ATR chart is shown in Figure 69.

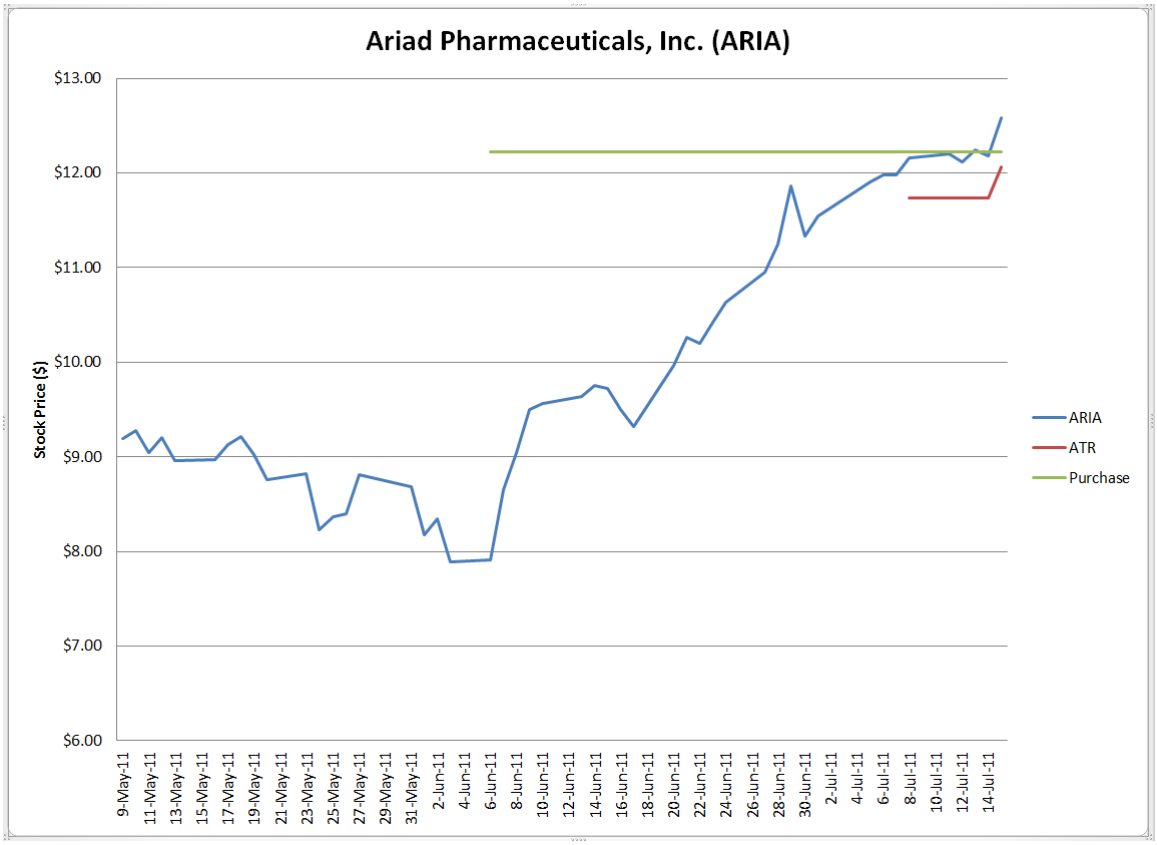


Figure 69 Aread Pharmaceuticals, Inc. (ARIA) stock price vs. ATR for week 8

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/11/2011											$38,276.65
7/11/2011	ARIA	Buy	$12.22	1000	$9.95	$12,229.95					$26,046.70
7/15/2011	ARIA			1000			$12.58	$12,580.00			
7/15/2011	WPI			150			$69.00	$10,350.00			
7/15/2011	DLTR			400			$68.83	$27,532.00			
7/15/2011	PEET			450			$60.31	$27,139.50			
								Total Weekly Asset/Cash			**$103,648.20**

Table 14 Stock and cash summary for ATR method week 8

4.10 Trend Following, ATR Method, SIMULATION WEEK 9

July 18, 2011 – July 22, 2011

This week was further plagued by the political indecision surrounding the talks over the Debt Ceiling issues. With only one more week to go until the deadlines for the Debt Ceiling issue the markets have been fluctuating on a daily basis. Apple and several other major players released their earnings reports this week but these were only able to provide short direction to the markets.

4.10.1 Watson Pharmaceuticals, Inc. (WPI)

WPI managed to regain the ground lost the previous week and even gain some ground. The stock closed the week at $70.48 with an adjusted ATR of $68.09 as shown in Figure 70.

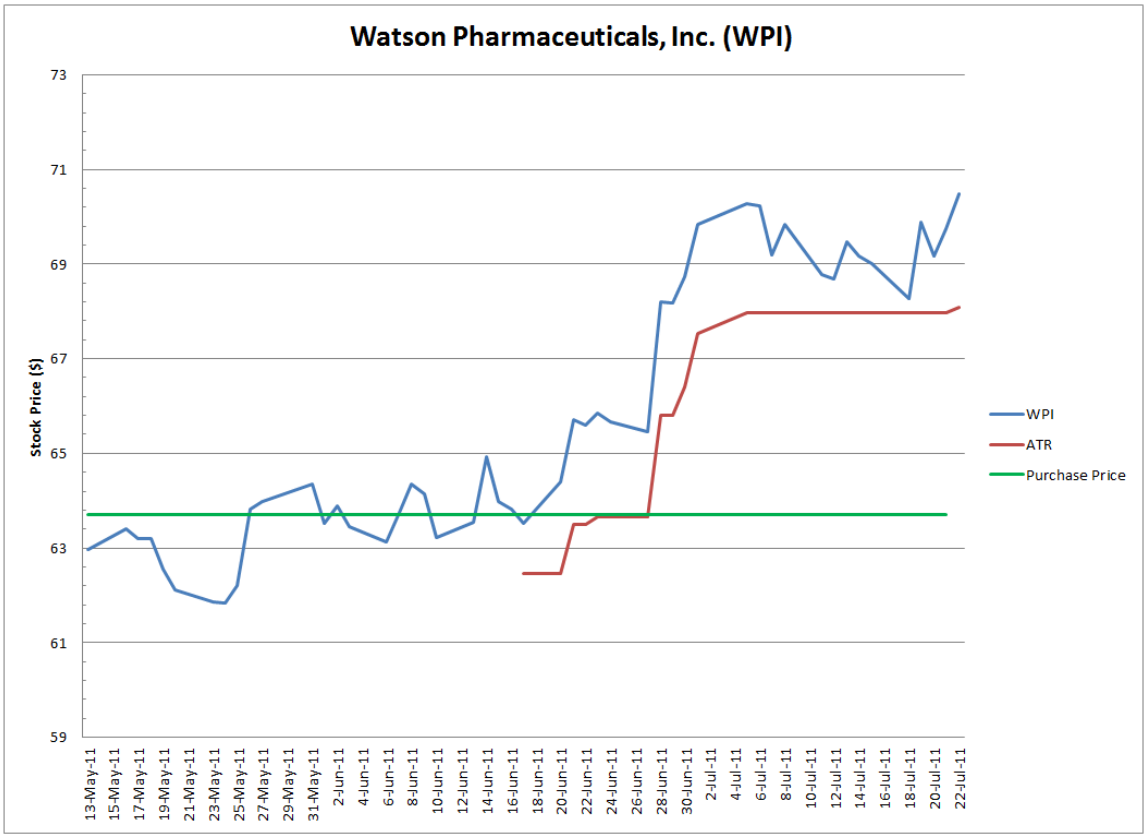


Figure 70 Watson Pharmaceuticals (WPI) stock price vs. ATR for week 8

4.10.2 Dollar Tree, Inc. (DLTR)

Dollar Tree did better this week than last but did not manage to make up all the previous losses. The stock closed the week at $68.76 with an ATR remaining the same at $66.63. This is shown in Figure 71.

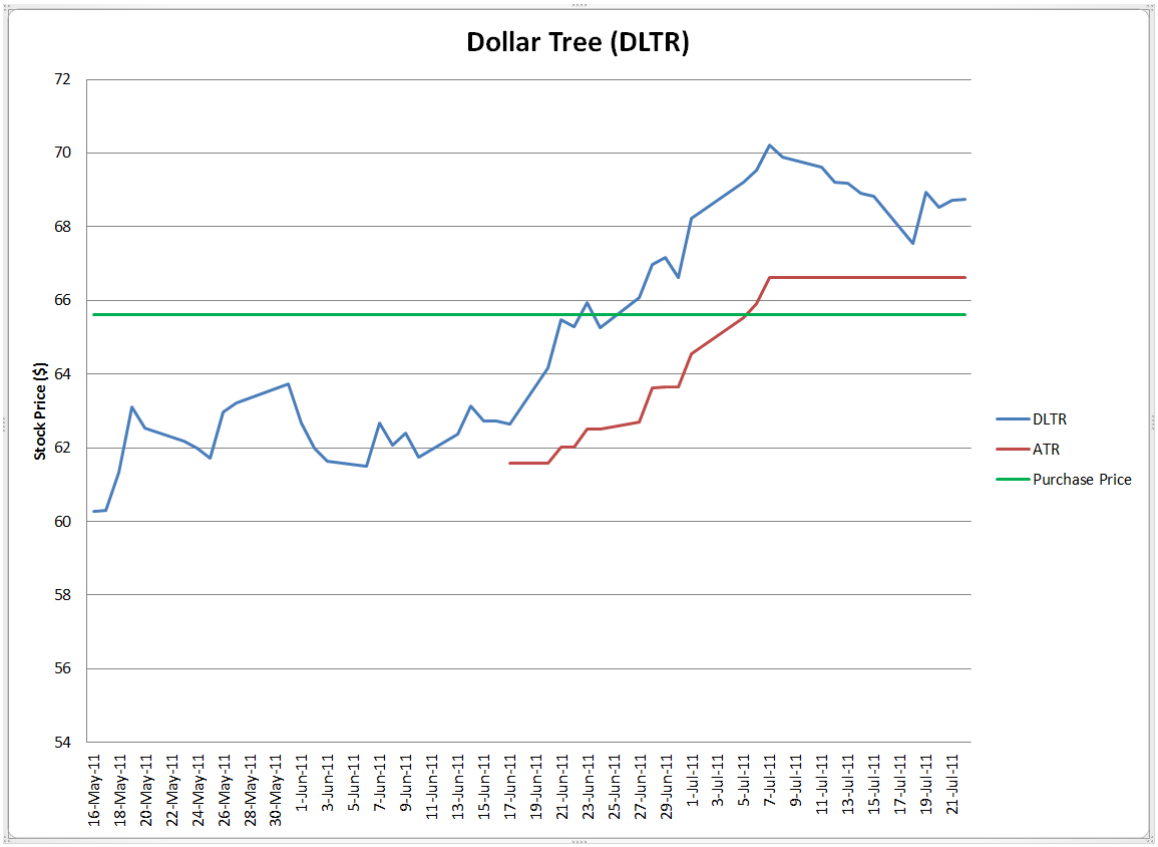


Figure 71 Dollar Tree (DLTR) stock price vs. ATR for week 8

4.10.3 Peet's Coffee & Tea, Inc. (PEET)

Peet's continued to fluctuate the same as the markets. By Friday it had only made a slight gain on the previous week. The stock closed up for the week at $60.82 and the ATR still at $58.93. The ATR chart is shown in Figure 72.

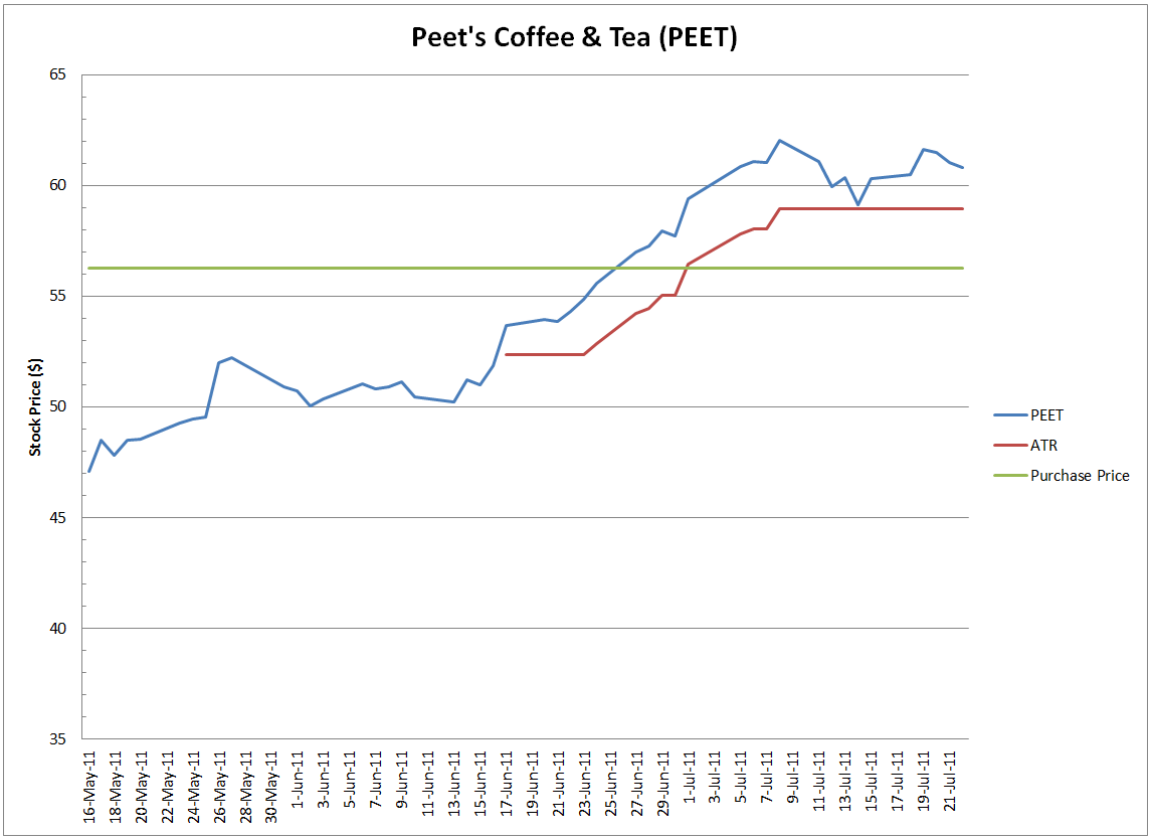


Figure 72 Peet's Coffee & Tea (PEET) stock price vs. ATR for week 8

4.10.4 Ariad Pharmaceuticals, Inc. (ARIA)

Ariad continued this week to outperform the markets. The stock closed up for the week at $13.34 with an adjusted ATR of $12.80. The ATR chart is shown in Figure 73.

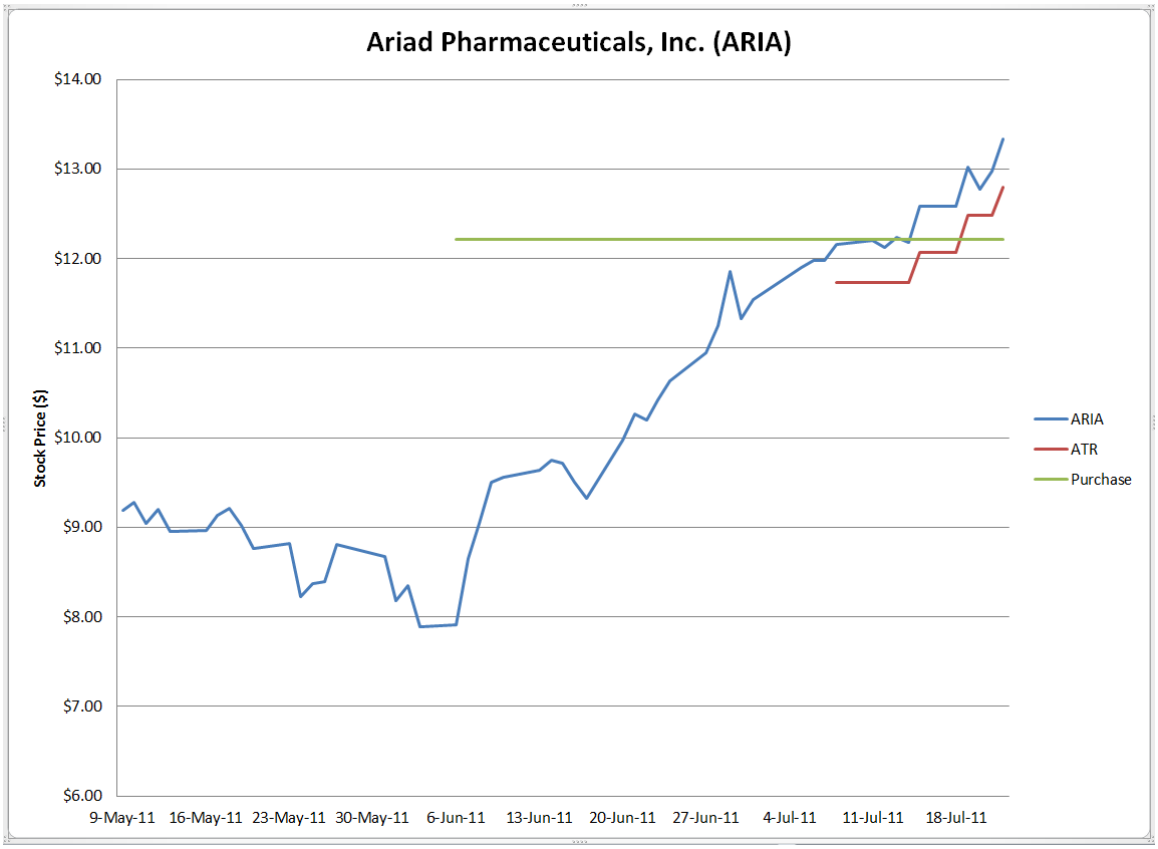


Figure 73 Aread Pharmaceuticals, Inc. (ARIA) stock price vs. ATR for week 8

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/18/2011											$26,046.70
7/22/2011	WPI			150			$70.48	$10,572.00	$1,007.05		
7/22/2011	DLTR			400			$68.76	$27,504.00	$212.00		
7/22/2011	PEET			450			$60.82	$27,369.00	$630.00		
7/22/2011	ARIA			1000			$13.34	$13,340.00	$1,110.05		
								Total Weekly Asset/Cash			**$104,831.70**

Table 15 Stock and cash summary for ATR method week 9

4.11 Trend Following, ATR Method, Conclusions

The simulation using the Average True Range method of Trend Following was successful. The week to week performance of the portfolio is shown in Figure 74. During the nine weeks of the simulation there were 14 trades conducted resulting in an overall gain of $4,831.70.

The selection of a stock for this method is challenging because the criteria is so simple. By definition, a stock that is at an all-time high is trending upward. In order to choose from the few stocks that may be at an all-time high I also looked briefly at the news coverage of the companies and made a completely subjective choice based on media sentiment. If the choice is a good one, then the upward trend of the stock continued long enough for the ATR line to rise above the purchase price resulting in a gain. If the selection turned out to be bad, then the trend would turn around before the ATR line could adjust upward, resulting in a sale at a loss. By chance, the choices made in this simulation resulted in more continuing trends than failures. Another aspect of these selection criteria that didn't become evident until after the simulation started is that the stock must have just *recently* gone above its all-time high. The farther a stock has traveled in an upward trend after this point brings it closer to the point where it will reverse the trend.

One benefit to this strategy of stock trading is the convenience of having a defined exit point for the transaction. The ATR line is a calculated value which is in effect as soon as the stock is purchased. This removes the emotional aspect from the decision of when to exit. It also provides a clear calculation for setting the trailing-stop thereby eliminating any self-deception or wishful thinking.

A drawback to this strategy is the amount of capital involved. Since the stocks that are chosen are at their all-time highs, the stock price can be quite high. This results in a large amount of capital being tied up for any appreciable amount of shares.

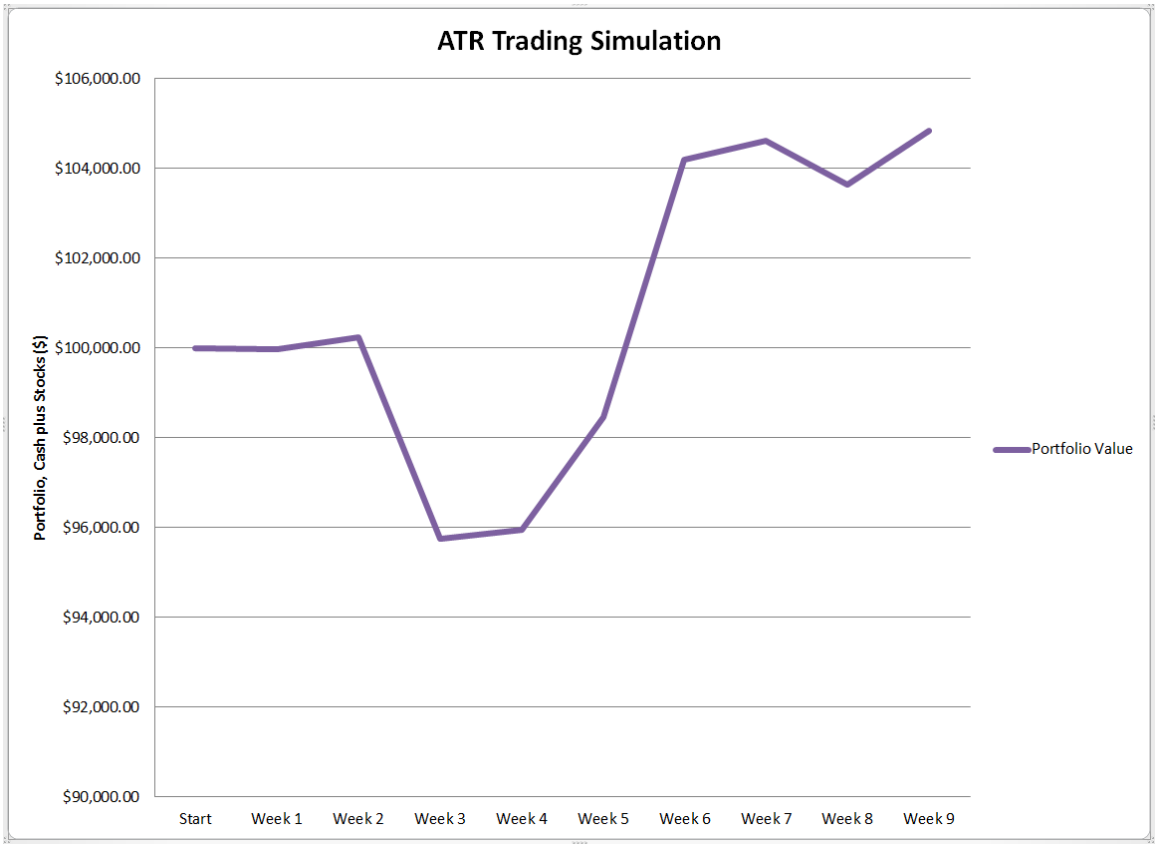


Figure 74 ATR trading simulation results

Chapter 5: Trend Following, Simple Moving Averages (SMA) Method

The second type of Trend Following used for the simulations is based on several simple moving averages. In this particular case the 50-day and 100-day moving averages are used. The following section presents the criteria for this simulation and the sections following present a chronological view of the simulations progress. A summary of the simulation and its conclusions are presented at the end of the chapter.

5.1 Initial Conditions and Tracking

The second Trend Following method will be referred to as the SMA method. This began with the same $100,000 available for the simulation. All trades occur at 9:50am the following morning and a commission of $9.95 is charged on every trade.

1. The second method of entry/exit that is used involves the use of the Simple Moving Averages (SMA) for two different periods, 50 and 100 days. The SMA is calculated by taking the sum of all the periods and dividing by the number of periods (n).
    a. When the 50-day SMA crosses over the 100-day SMA the market is on an upward trend. Buy stock on the following day.
    b. When the 100-day SMA crosses over the 50-day SMA the market has turned down. Sell the stock (and short the stock if desired) on the following day.

5.2 Trend Following, SMA Method, Week 1

May 30, 2011 – June 3, 2011

For this simulation I concentrated on stocks from the New York Stock Exchange listings. The search was conducted manually by studying each company's historic performance to identify the appropriate relationship between the 50-day and 100-day simple moving averages (SMAs). The stock and cash summary for week 1 is shown in Table 16.

5.2.1 Graco, Inc. (GGG)

Graco Inc. was incorporated in 1926. They provide fluid handling solutions to companies in the manufacturing, construction, processing, and maintenance industries. These systems are designed to mix, meter, pump, dispense, and spray fluids in a variety of applications. The first buy order was placed for 750 shares on 5/31/11 at $50.01 per share.

At the end of Week 1 Graco, Inc. continues to perform on an upward trend. The 50-day and 100-day trend lines are actually opening up from each other reflecting the lag from the sharp increase in stock price in late April. The chart for Graco is shown in Figure 75.

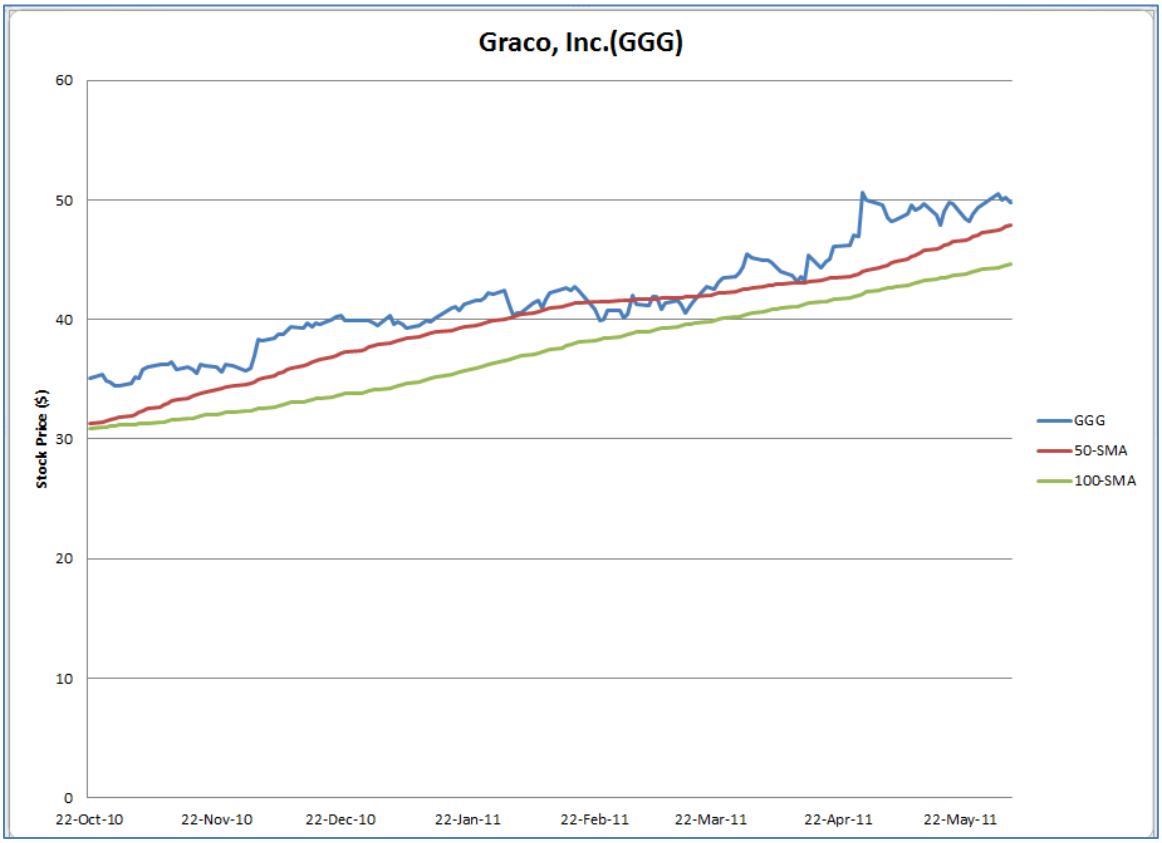


Figure 75 Graco, Inc. (GGG) 50 & 100 day moving averages at the end of week 1

5.2.2 China Unicom Limited (CHU)

Market Capital: $49.55B

China Unicom (Hong Kong) Limited is a telecommunications operator in China. They offer mobile, fixed line, data communications, and other telecommunications services. Their mobile business includes both GSM and 3G technologies. The present moving averages graph shows that the stock is in an upturn. The first buy order was placed 5/31/11 for 1000 shares at $22.01.

At the end of Week 1, China Unicom is showing a similar trend to Graco, Inc. The SMA trend lines are opening up a little due to the rapid rise in share price in late April. The trend continues to look solid. The chart is shown in Figure 76.

Figure 76 China Unicom Limited (CHU) 50 & 100 day moving averages at end of week 1

5.2.3 VMware, Inc. (VMW)

Market Capital: $40.8B

This company provides computer virtualization solutions for everything from desktops to datacenter servers. The initial buy was made 5/31/11 for 300 shares at $96.98.

VMware was purchased just after the 50-Day SMA crossed the 100-Day SMA showing the upward trend. Since then the trend lines have continued to increase the gap. However, this is due to the lag in the indicators and the sharp rise in the stock price on April 20th. Since then the stock has swung between a high of $97.90, a low of $89.45, and back up again. This will require consistent monitoring to see if the trend steadies or turns. The chart is shown in Figure 77.

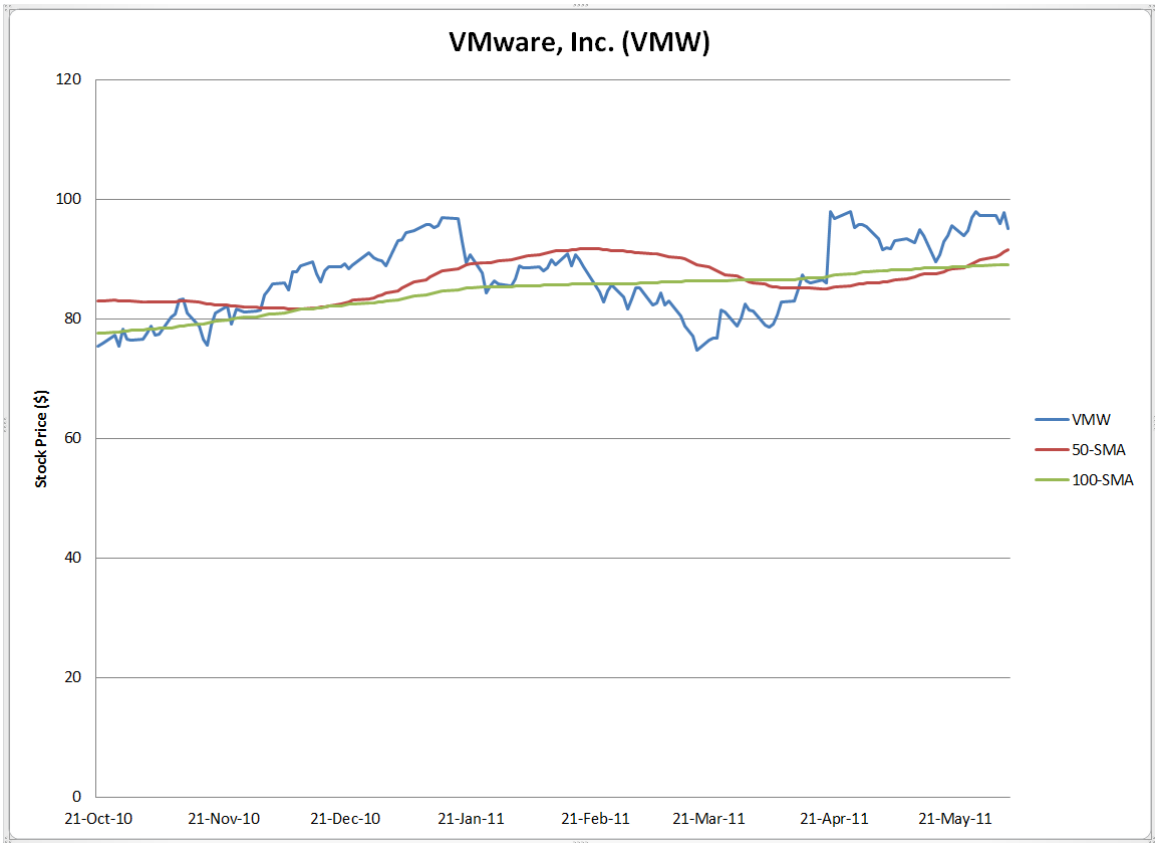


Figure 77 VMware (VMW) 50 and 100 day moving averages at end of week 1

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
5/30/2011											$100,000.00
5/31/2011	GGG	Buy	$50.01	750	$9.95	$37,517.45					$62,482.55
5/31/2011	CHU	Buy	$22.01	1000	$9.95	$22,019.95					$40,462.60
5/31/2011	VMW	Buy	$96.98	300	$9.95	$29,103.95					$11,358.65
6/3/2011	GGG			750			$50.01	$37,507.50			
6/3/2011	CHU			1000			$21.35	$21,350.00			
6/3/2011	VMW			300			$94.99	$28,497.00			
								Total Weekly Asset/Cash			**$98,713.15**

Table 16 Stock and cash summary for SMA method week 1

5.3 Trend Following, SMA Method, Week 2

June 6, 2011 – June 10, 2011

As mentioned in the earlier simulation, the stock market is in a slump at this point based on worries over the global economic downturn including higher unemployment, reduced production, and reduced trade. The three stocks held in this simulation at this point are just barely holding onto their positive trends. The built-in delay in this trend simulation may work against us at this point as we will see over the next several weeks. The stock and cash summary for week 2 is shown in Table 17.

5.3.1 Graco, Inc. (GGG)

Graco Inc. announced on 6/10/2011 a $.21 per share quarterly dividend payable on 8/3/2011. This means an extra $157.50 for our 750 shares if they are held that long. The chart is shown in Figure 78.

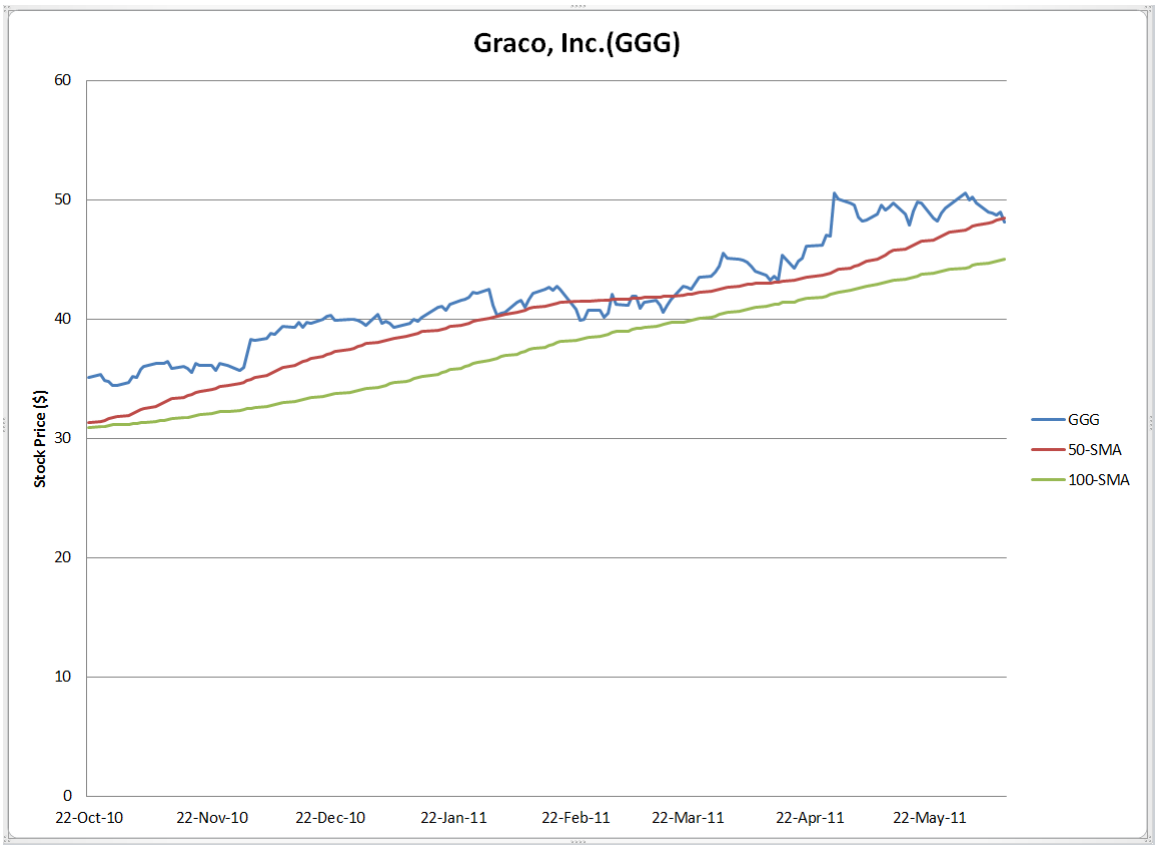


Figure 78 Graco, Inc. (GGG) stock price with 50 & 100 day SMA trends

5.3.2 China Unicom Limited (CHU)

China Unicom had a rough week this week and ended by crashing thru the support level of $20.86. The chart is shown in Figure 79.

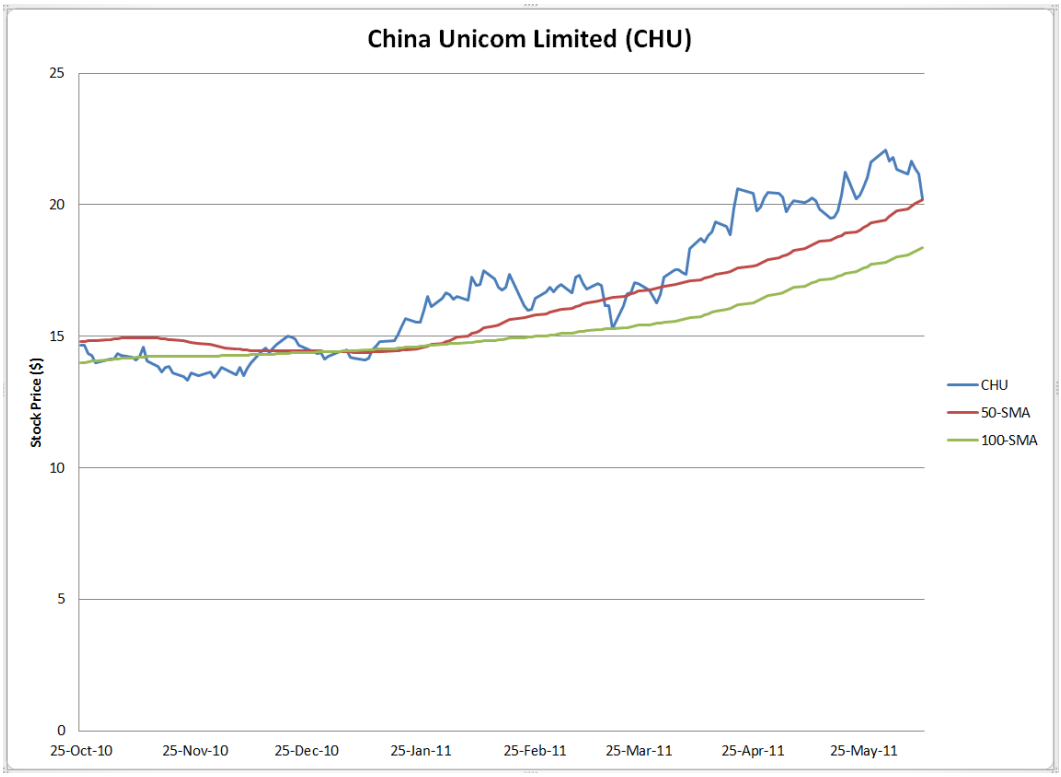


Figure 79 China Unicom Limited (CHU) stock price with 50 & 100 day SMA trends

5.3.3 VMware (VMW)

VMware has been talked up this week as a very promising company. Several analysts have pointed out the solid performance year over year since last year and their ability to deliver on cloud computing solutions, the newest trend in the IT world. The VMW chart is shown in Figure 80.

Figure 80 VMware (VMW) stock price with 50 & 100 day SMA trends

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/6/2011											$11,358.65
6/10/2011	GGG			750			$48.11	$36,082.50			
6/10/2011	CHU			1000			$20.24	$20,240.00			
6/10/2011	VMW			300			$93.46	$28,038.00			
								Total Weekly Asset/Cash			**$95,719.15**

Table 17 Stock and cash summary for SMA method week 2

5.4 Trend Following, SMA Method, Week 3

June 13, 2011 – June 17, 2011

The stock markets had one good day of recovery but slid the next two days and finished the week with a mild recovery. General analyst opinion is optimistic for a recovery. The stock and cash summary for week 3 is shown in Table 18.

5.4.1 Graco, Inc. (GGG)

The upward trend of Graco Inc. has begun to narrow. This is a negative indicator for this type of trend following. The chart is shown in Figure 81.

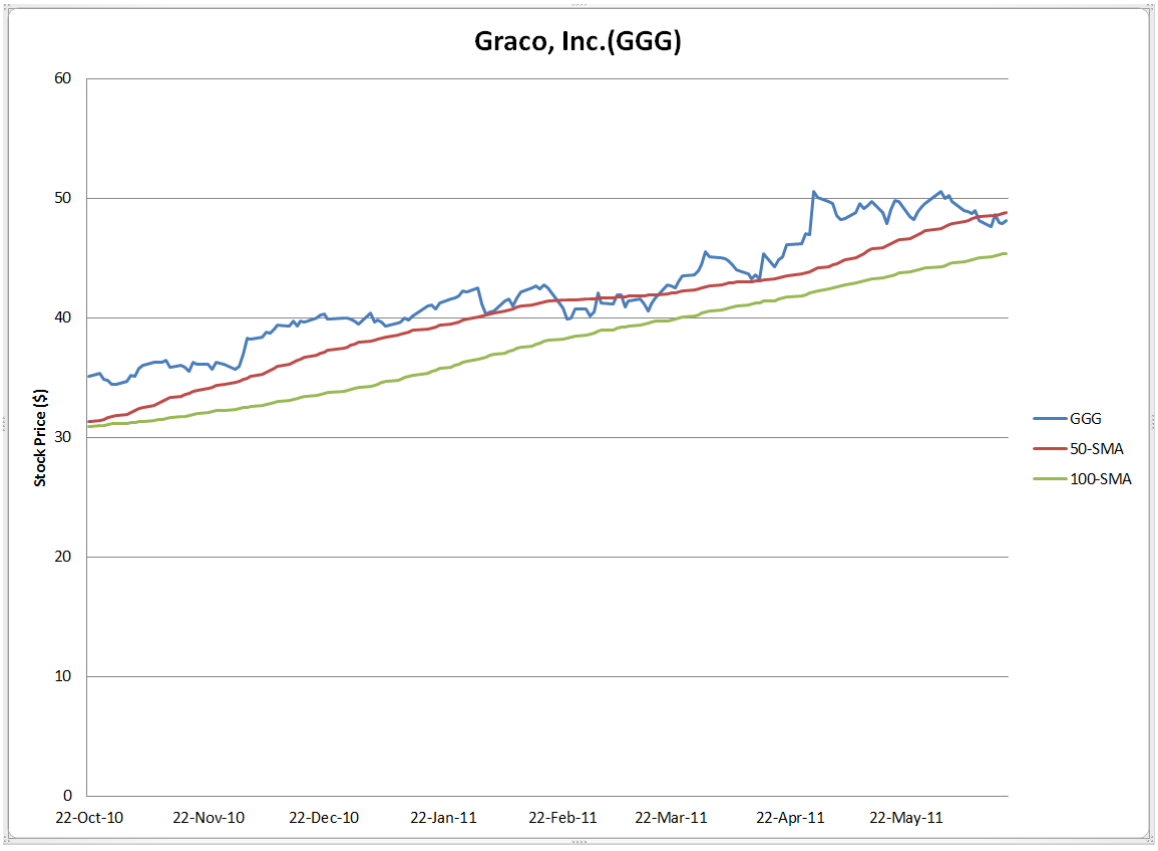


Figure 81 Graco, Inc. (GGG) stock price with 50 & 100 day SMA trends

5.4.2 China Unicom Limited (CHU)

After dipping below the support level last week China Unicom has been on a roller-coaster ride following the market index. The trend indicators haven't begun to narrow yet but this coming week could be decisive. The chart is shown in Figure 82.

Figure 82 China Unicom Limited (CHU) stock price with 50 & 100 day SMA trends

5.4.3 VMware (VMW)

The positive analyst coverage of last week has been replaced this week by articles citing VMware as a bearish stock with little upside potential. This coming week may be decisive for this stock as well as China Unicom. The updated chart is shown in Figure 83.

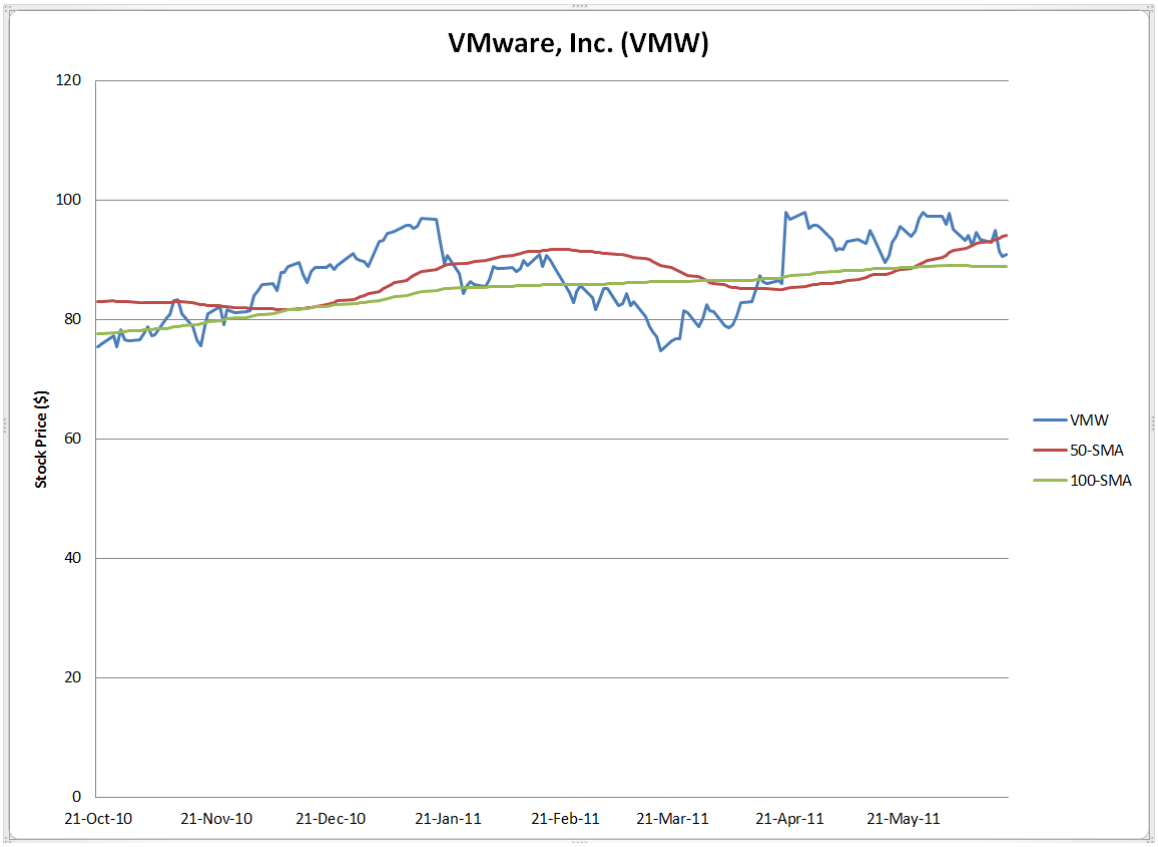


Figure 83 VMware (VMW) stock price with 50 & 100 day SMA trends

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/6/2011											$11,358.65
6/10/2011	GGG			750			$48.15	$36,112.50			
6/10/2011	CHU			1000			$19.53	$19,530.00			
6/10/2011	VMW			300			$90.79	$27,237.00			
								Total Weekly Asset/Cash			**$94,238.15**

Table 18 Stock and cash summary for SMA method week 3

5.5 Trend Following, SMA Method, Week 4

June 20, 2011 – June 24, 2011

The stock markets had one good day of recovery but slid the next two days and finished the week with a mild recovery. General analyst opinion is optimistic for a recovery. The stock and cash summary for week 4 is shown in Table 19.

5.5.1 Graco, Inc. (GGG)

The upward trend of Graco Inc. seems to be holding the gap but is flattening out. The trend is still upward so I will let it ride into the following week. Graco closed out the week at $48.85. The chart is shown in Figure 84.

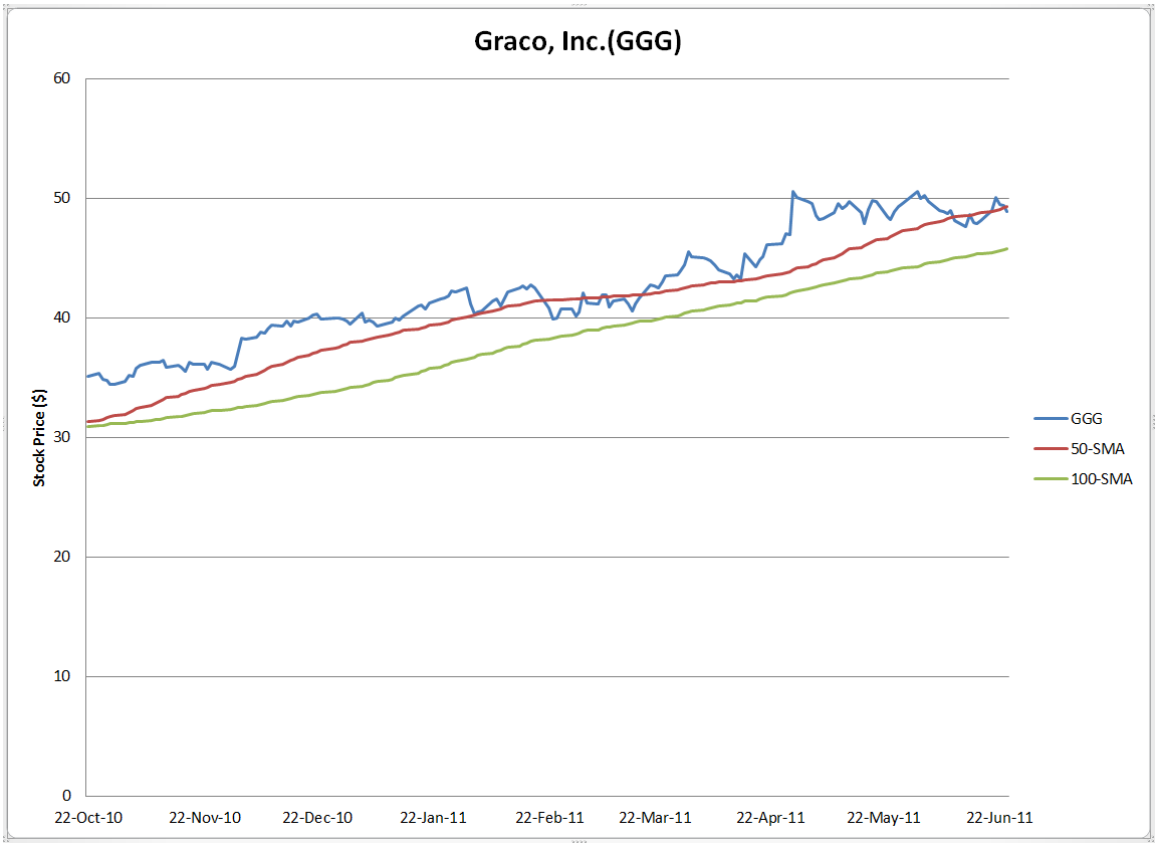


Figure 84 Graco, Inc. (GGG) stock price with 50 & 100 day SMA trends

5.5.2 China Unicom Limited (CHU)

China Unicom continues to decline and has crossed the 50 SMA line trending down. A sell order has been placed for Monday 6/27/2011. China Unicom closed out the week at $19.24. The chart is shown in Figure 85.

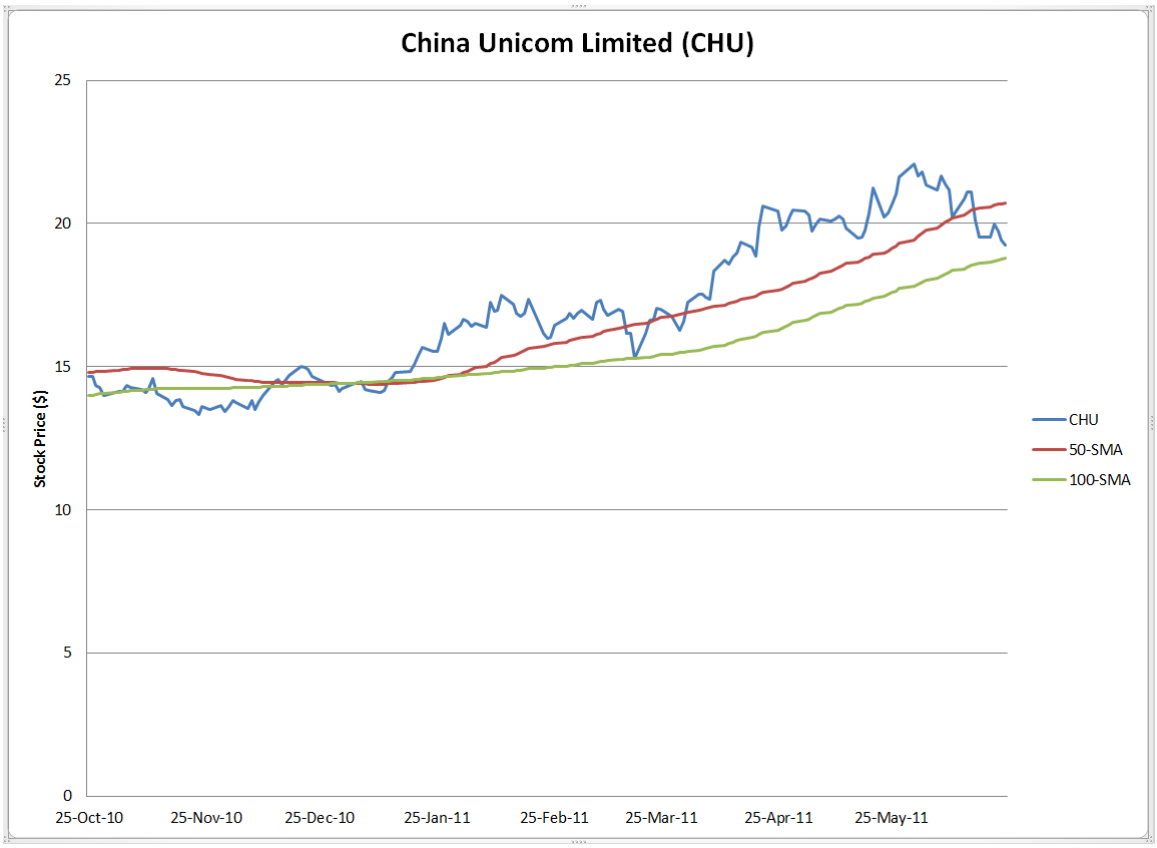


Figure 85 China Unicom Limited (CHU) stock price with 50 & 100 day SMA trends

5.5.3 VMware (VMW)

Both the 50 and 100 SMA lines have flattened out even while holding the gap. A decision will be made on Monday 6/27/2011 whether to sell or hold for another week. VMware closed out the week at $94.24. The updated chart is shown in Figure 86.

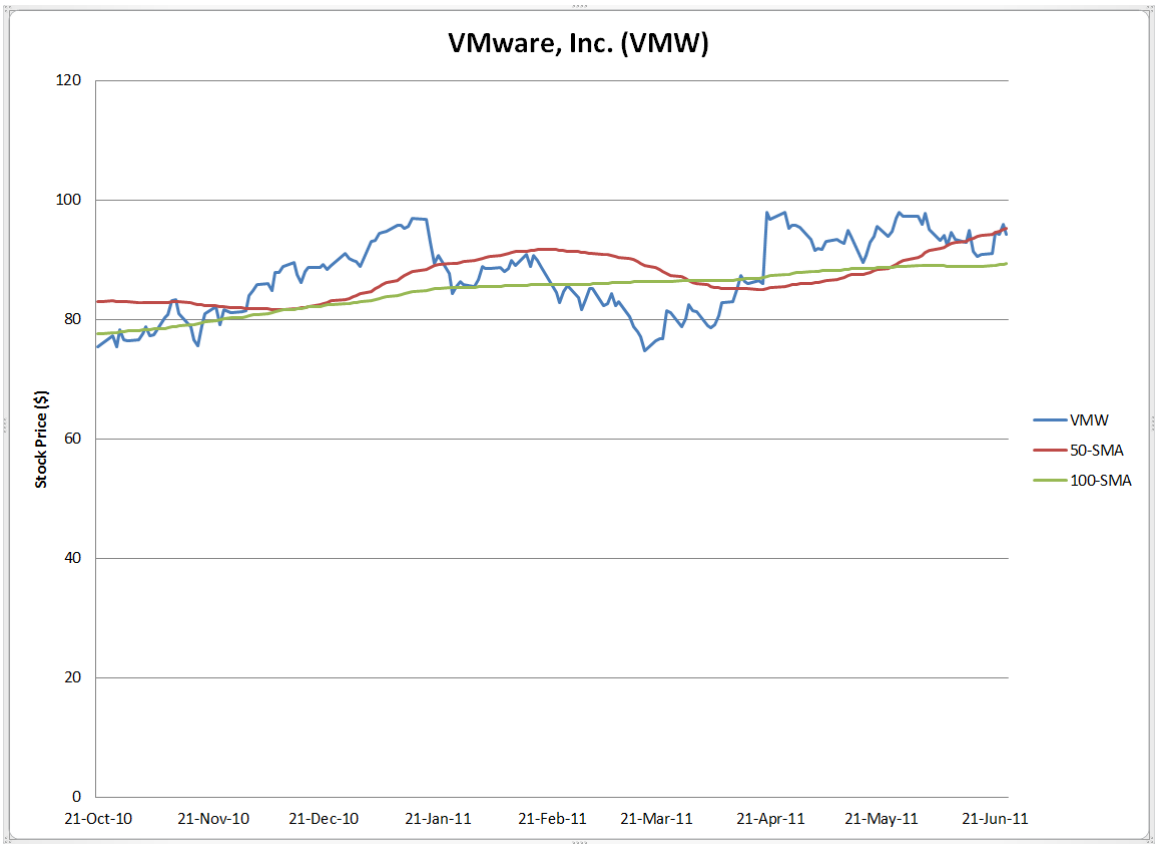


Figure 86 VMware (VMW) stock price with 50 & 100 day SMA trends

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/6/2011											$11,358.65
6/10/2011	GGG			750			$48.85	$36,637.50			
6/10/2011	CHU			1000			$19.24	$19,240.00			
6/10/2011	VMW			300			$94.24	$28,272.00			
								Total Weekly Asset/Cash			**$95,508.15**

Table 19 Stock and cash summary for SMA method week 4

5.6 Trend Following, SMA Method, Week 5

June 27, 2011 – July 1, 2011

The market had a good week this week and climbed each successive day. The sale of China Unicom went through on Monday morning for an overall loss of $2,659.90. Two other stocks were added this week to offset the sale of China Unicom. They are Robbins & Myers, Inc. and Syntel, Inc. The stock and cash summary for week 5 is shown in Table 20.

5.6.1 Graco, Inc. (GGG)

Graco, Inc. had significant gains this week and closed at $51.53, up from last weeks close of $48.85. The updates chart is shown in Figure 87.

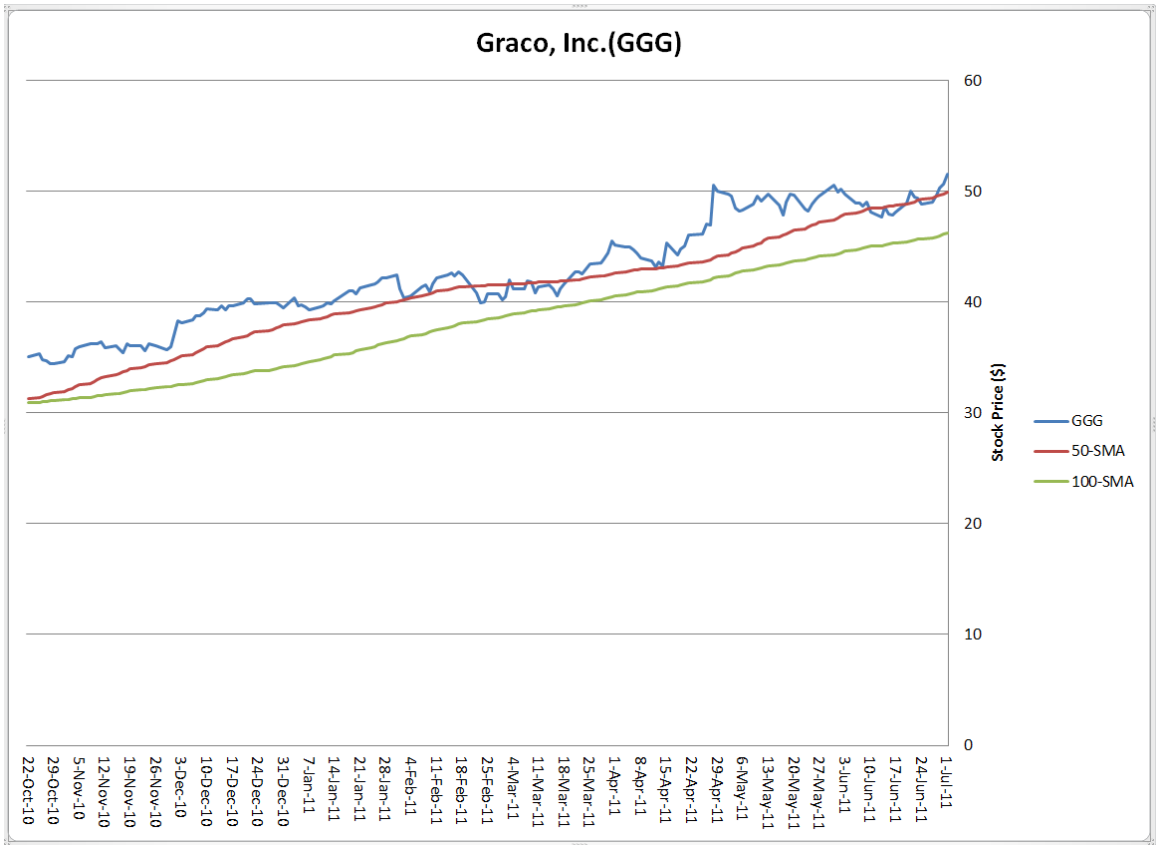


Figure 87 Graco, Inc. (GGG) stock price with 50 & 100 day SMA trends

5.6.2 China Unicom Limited (CHU)

The sell order executed for China Unicom on Monday 6/27/2011 at $19.37 per share. This resulted in a loss of $2,659.90. The final CHU chart is shown in Figure 88.

Figure 88 China Unicom Limited (CHU) stock price with 50 & 100 day SMA trends

5.6.3 VMware (VMW)

VMware made a comeback on Monday from Friday's close at $94.24 to close the day at $97.60. Looking at the 50 and 100 day SMA lines it can be seen that the 100 is starting to turn up in response to the upward trend in April. The 50 SMA is starting to decrease its positive slope in relation to the stock price forming a trading range between $88 and $99. Taking these indications into consideration, a new trading range may be forming. The stock closed the week at $99.90. The chart is shown in Figure 89.

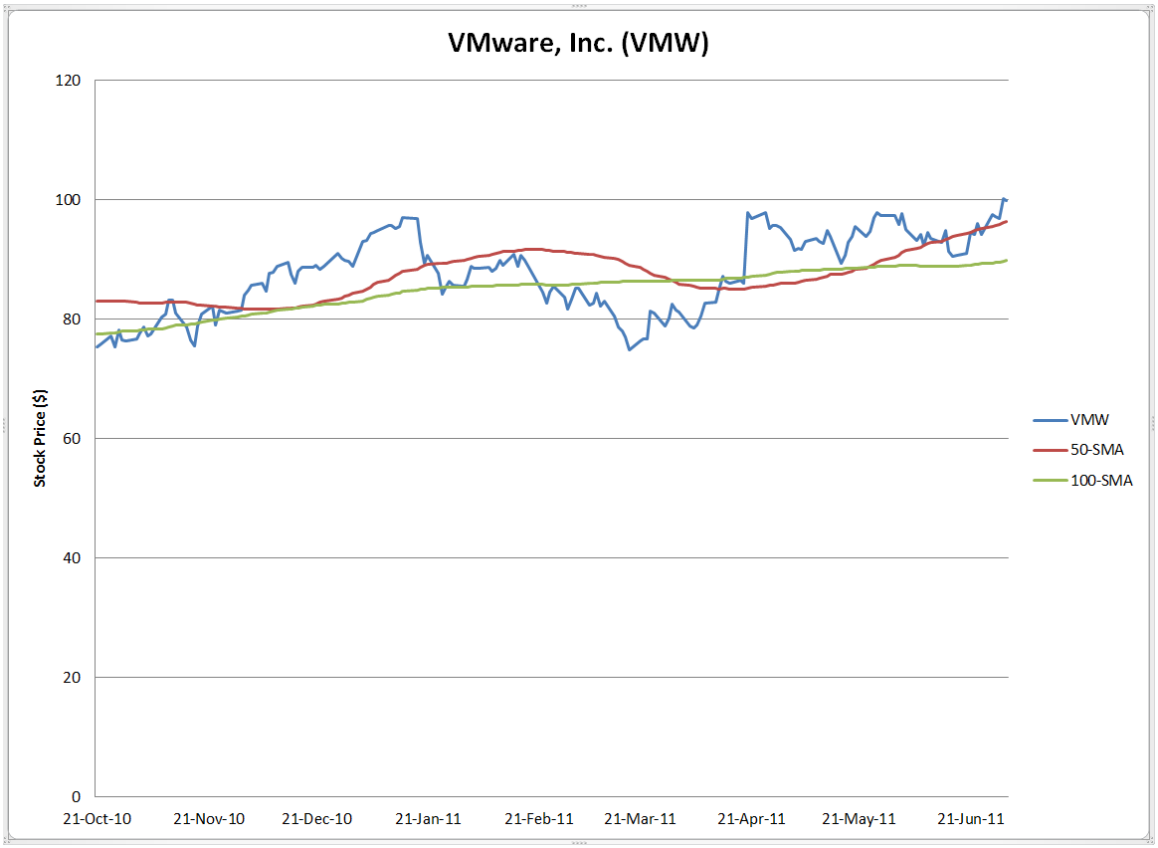


Figure 89 VMware (VMW) stock price with 50 & 100 day SMA trends

5.6.4 Robbins & Myers, Inc. (RBN)

Robbins & Myers, Incorporated is a supplier of engineered equipment and systems for use in global energy, industrial chemical and pharmaceutical markets. Shares of RBN were purchased on 6/27/11 for $49.40 per share as the 50 and 100-day SMA lines crossed and began to open up. The chart for RBN is shown in Figure 90.

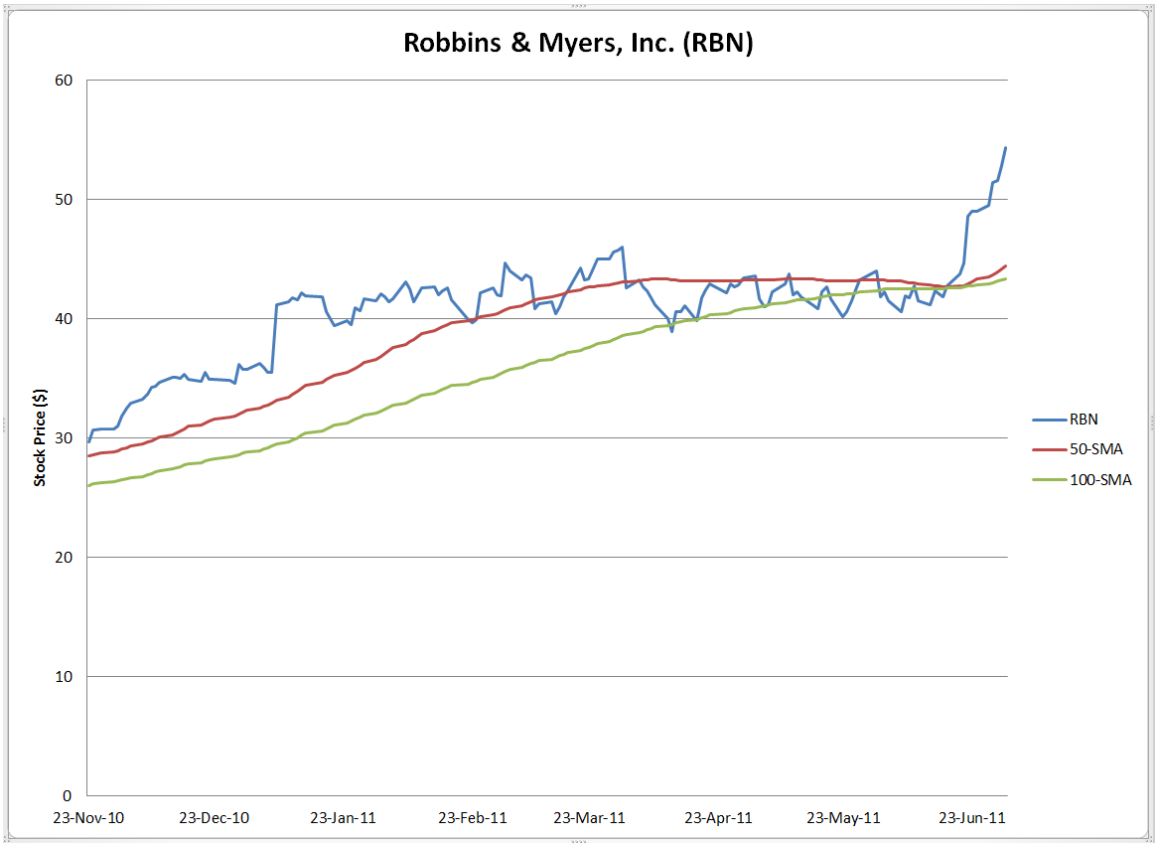


Figure 90 Robbins & Myers (RBN) stock price with 50 & 100 day SMA trends

5.6.5 Syntel, Inc. (SYNT)

Syntel is a provider of information technology and knowledge process outsourcing services to Global 2000 companies. Shares of SYNT were purchased on 6/28/11 for $57.15 after the SMA lines crossed and began to open. The chart for SYNT is shown in Figure 91 below.

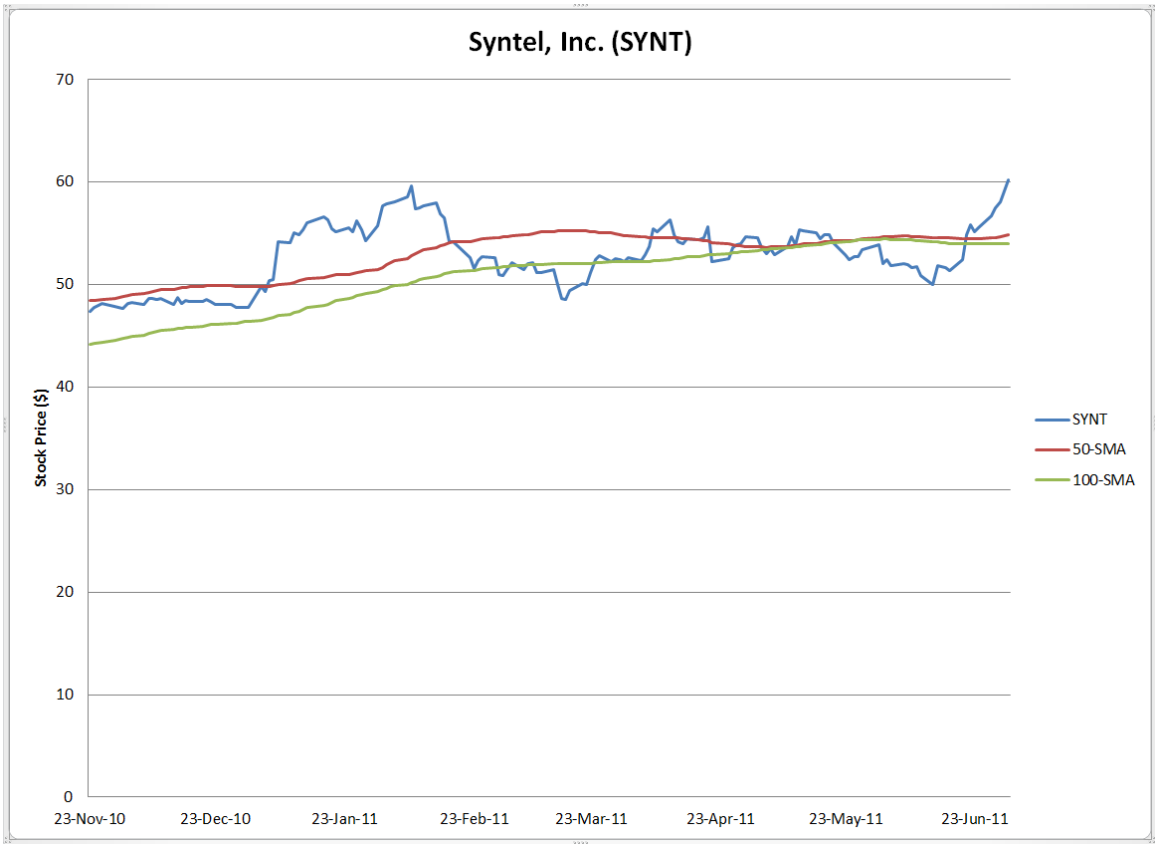


Figure 91 Syntel, Inc. (SYNT) stock price with 50 & 100 day SMA trends

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/27/2011											$11,358.65
6/27/2011	CHU	Sell	$19.37	1000	$9.95	$19,360.05			($2,659.90)		$30,718.70
6/27/2011	RBN	Buy	$49.40	200	$9.95	$9,889.95					$20,828.75
6/28/2011	SYNT	Buy	$57.15	175	$9.95	$10,011.20					$10,817.55
7/1/2011	GGG			750			$48.85	$36,637.50			
7/1/2011	VMW			300			$99.90	$29,970.00			
7/1/2011	RBN			200			$54.34	$10,868.00			
7/1/2011	SYNT			175			$60.17	$10,529.75			
								Total Weekly Asset/Cash			$98,822.80

Table 20 Stock and cash summary for SMA method week 5

5.7 Trend Following, SMA Method, Week 6

July 5, 2011 – July 8, 2011

This week the markets were closed on Monday for Independence Day. Then on Friday the unemployment report came out with much worse than expected numbers that sent the markets down for most of the day. There was some recovery near the end of the day Friday and the losses in general were not enough to offset the gains from the rest of the week. The stock and cash summary for week 6 is shown in Table 21.

5.7.1 Graco, Inc. (GGG)

Graco, Inc. had significant gains this week and even with the losses on Friday it was able to close up at $53.62, which was up from last week's close of $51.53. The chart is shown in Figure 92.

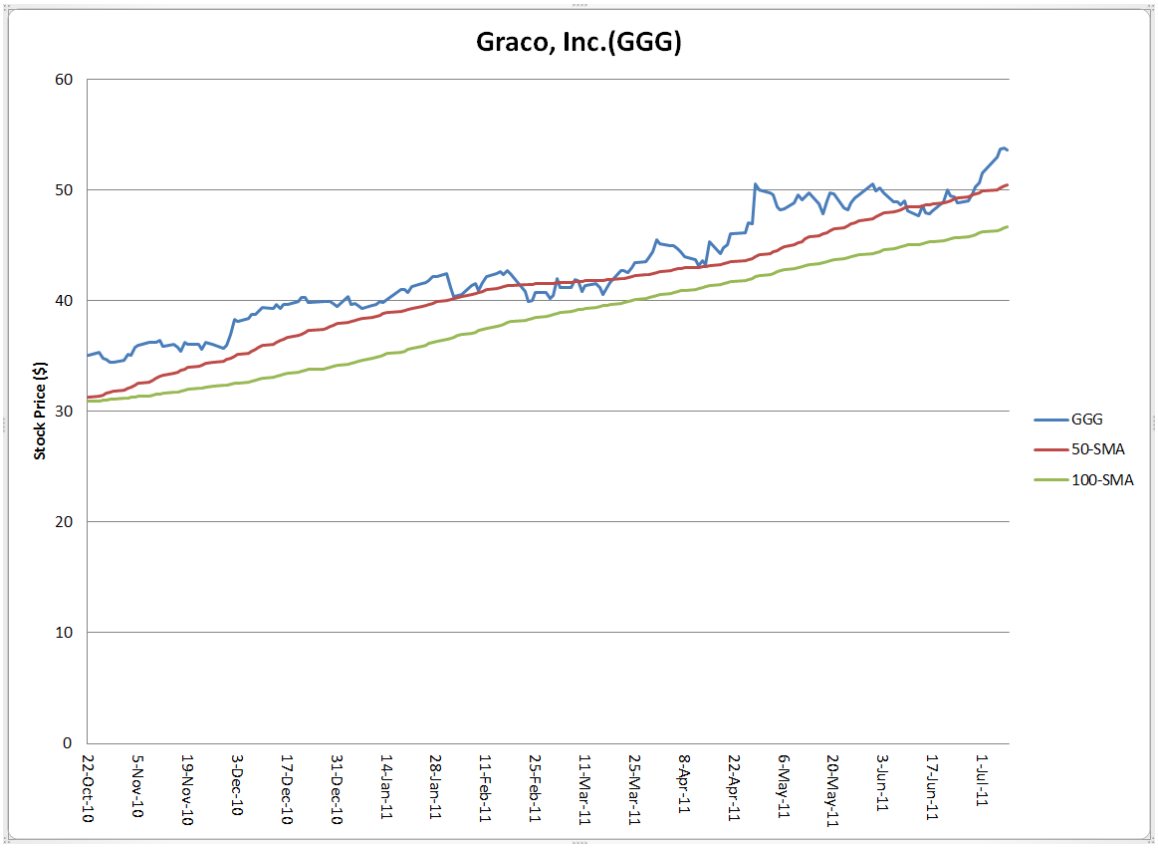


Figure 92 Graco, Inc. (GGG) stock price with 50 & 100 day SMA trends

5.7.2 VMware (VMW)

The stock continued on an upward trend this week instead of forming a new trading range as I suspected last week. It closed the week at $105.00. The updated chart is shown in Figure 93.

Figure 93 VMware (VMW) stock price with 50 & 100 day SMA trends

5.7.3 Robbins & Myers, Inc. (RBN)

Robbins & Myers had some fairly large price fluctuations this week but was able to close up, ending the week at $54.77 compared to last week's close at $54.34. The chart is shown in Figure 94.

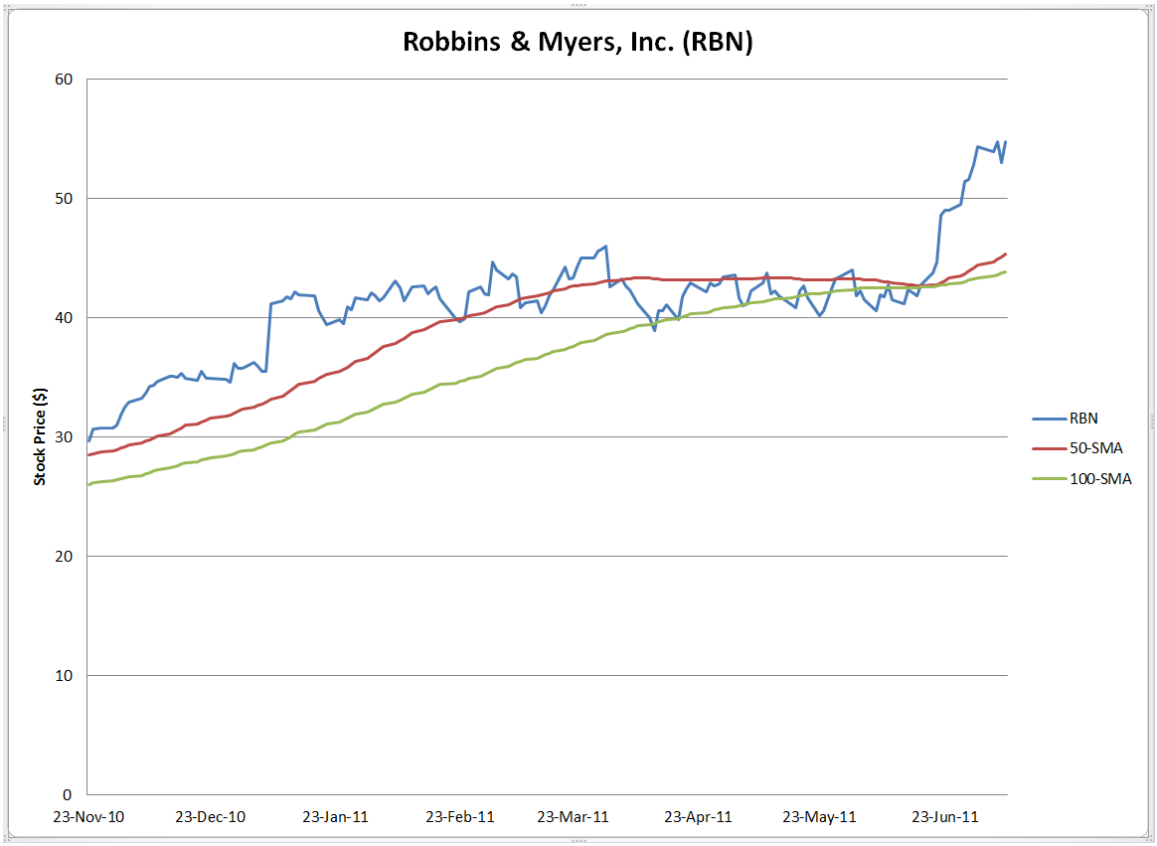


Figure 94 Robbins & Myers (RBN) stock price with 50 & 100 day SMA trends

5.7.4 Syntel, Inc. (SYNT)

Syntel rose through the middle of the week then declined a bit to close just slightly up for the week at $60.86. Last week's close was $60.17. The updated chart is shown in Figure 95.

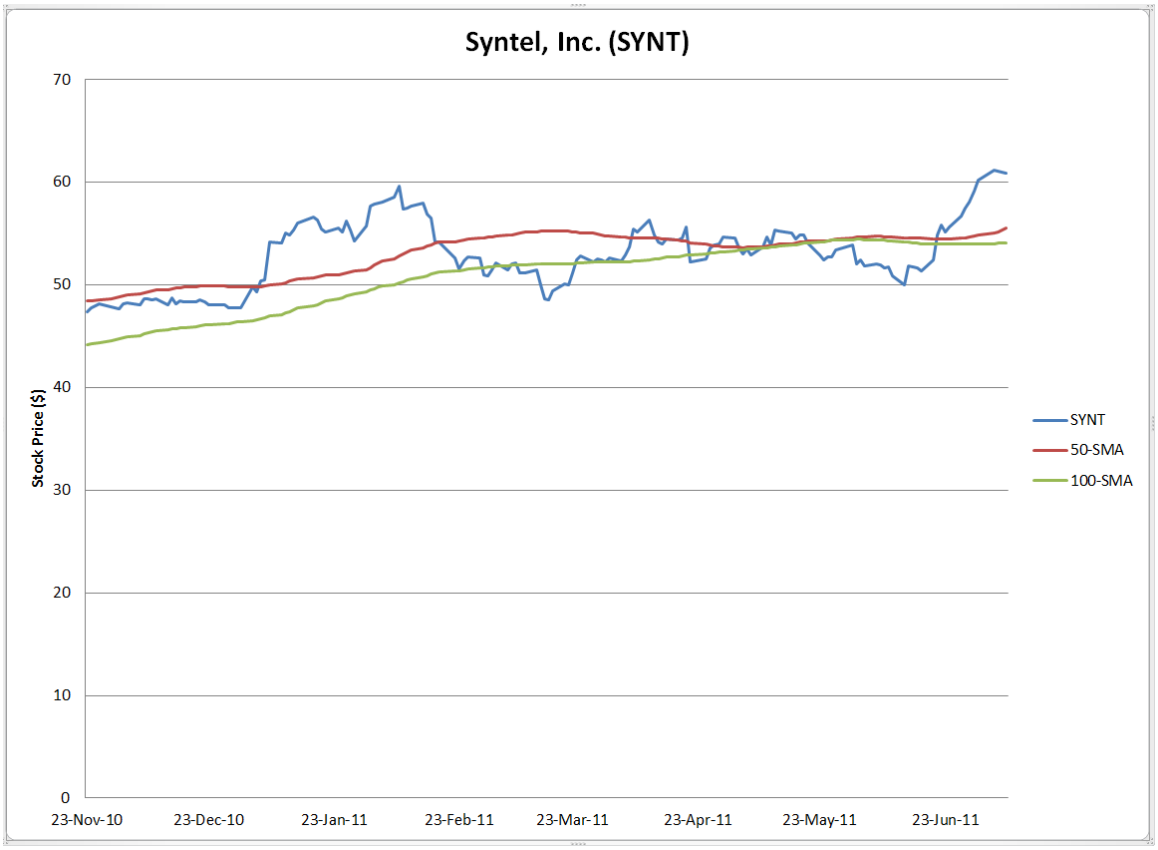


Figure 95 Syntel, Inc. (SYNT) stock price with 50 & 100 day SMA trends

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/27/2011											$10,817.55
7/1/2011	GGG			750			$53.62	$40,215.00			
7/1/2011	VMW			300			$105.00	$31,500.00			
7/1/2011	RBN			200			$54.77	$10,954.00			
7/1/2011	SYNT			175			$60.86	$10,650.50			
								Total Weekly Asset/Cash			**$104,137.05**

Table 21 Stock and cash summary for SMA method week 6

5.8 Trend Following, SMA Method, Week 7

July 11, 2011 – July 15, 2011

This week the markets continued to be affected by the uncertainties surrounding the debates in Congress concerning the Debt Ceiling. This uncertainty caused a lot of short term fluctuation as investors looked to short term gains as opposed to any longer term investing. With the loose exit criteria used in this method, the fluctuations caused by U. S. and World politics could wipe out and gains that have been generated. The stock and cash summary for week 7 is shown in Table 22.

5.8.1 Graco, Inc. (GGG)

Graco, Inc. lost all of the gains from the previous week plus some more. It closed down for the week at $49.93. The chart is shown in Figure 96.

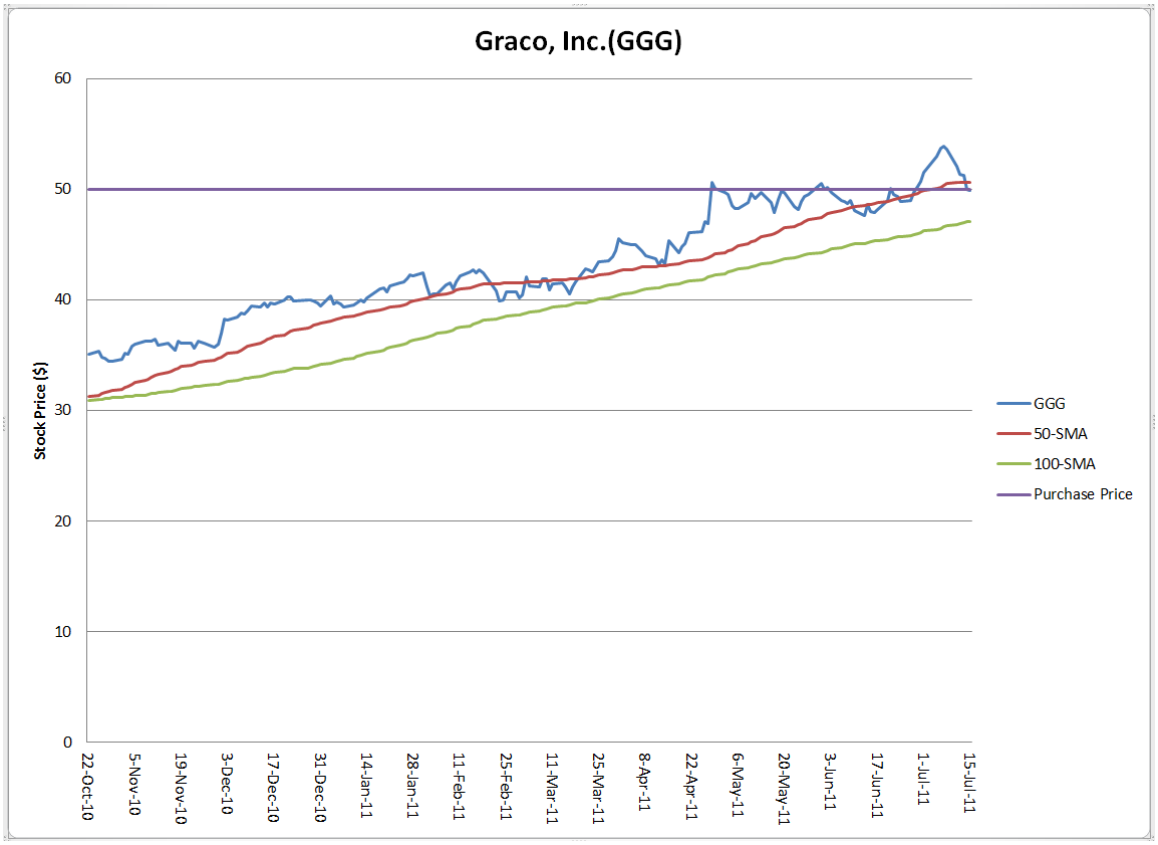


Figure 96 Graco, Inc. (GGG) stock price with 50 & 100 day SMA trends

5.8.2 VMware (VMW)

VMware fluctuated similar to the market indices this week closed down for the week at $102.67. The chart is shown in Figure 97.

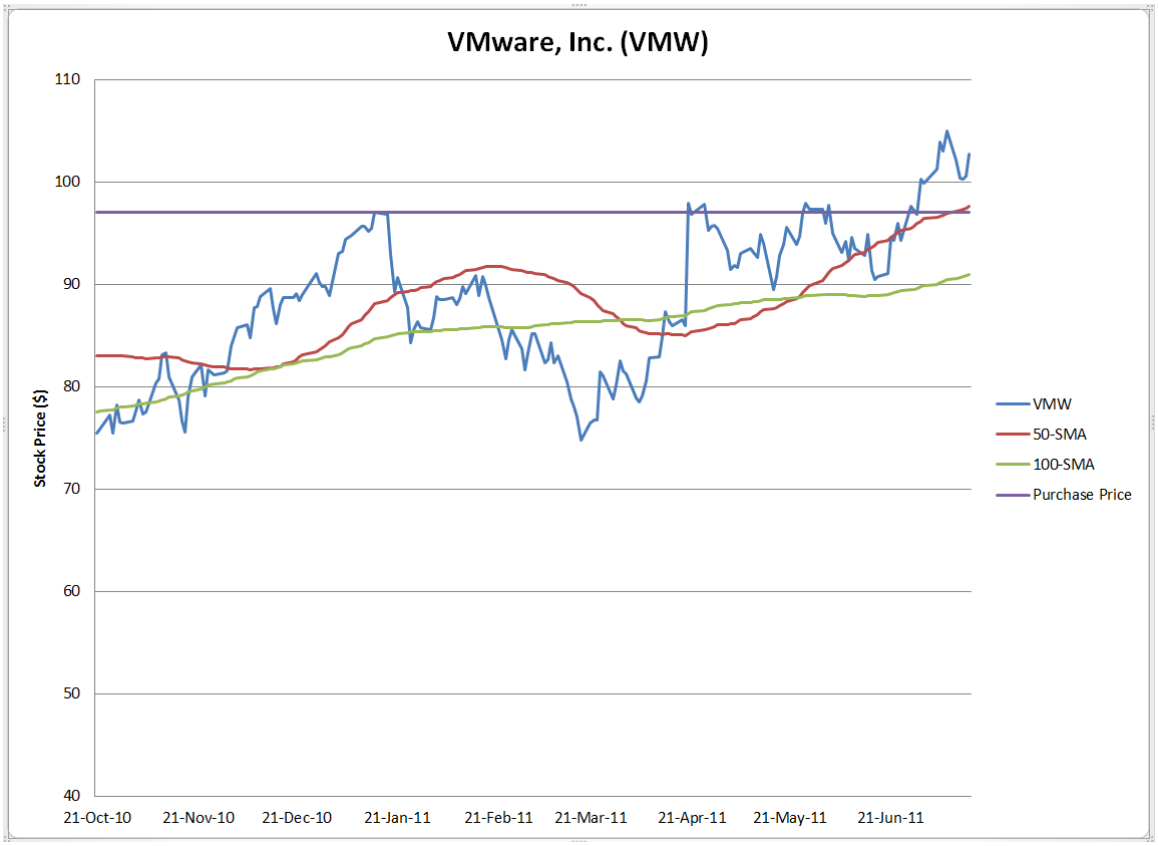


Figure 97 VMware (VMW) stock price with 50 & 100 day SMA trends

5.8.3 Robbins & Myers, Inc. (RBN)

Robbins & Myers had some fairly large price fluctuations this week, more than 7%, and closed down for the week at $52.05. The updated chart is shown in Figure 98.

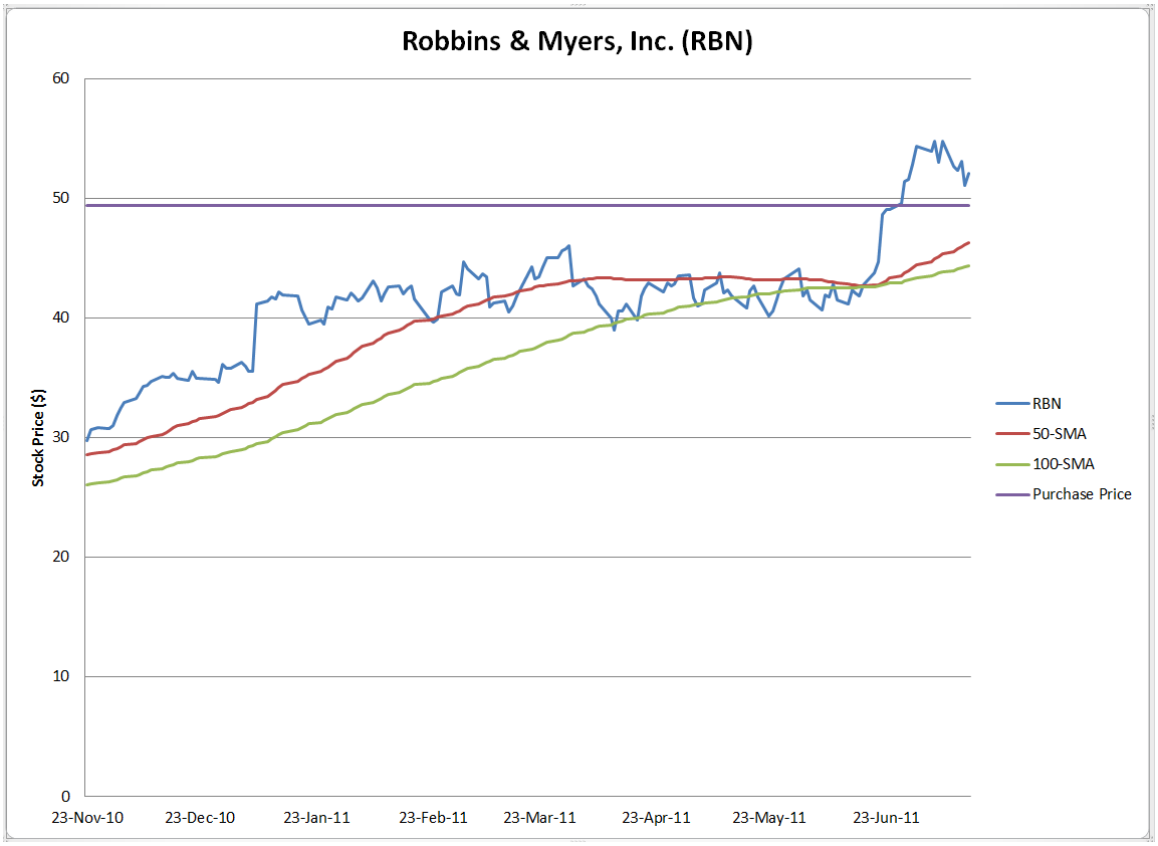


Figure 98 Robbins & Myers (RBN) stock price with 50 & 100 day SMA trends

5.8.4 Syntel, Inc. (SYNT)

Syntel suffered some losses this week to close down at $58.16. The updated chart is shown in Figure 99.

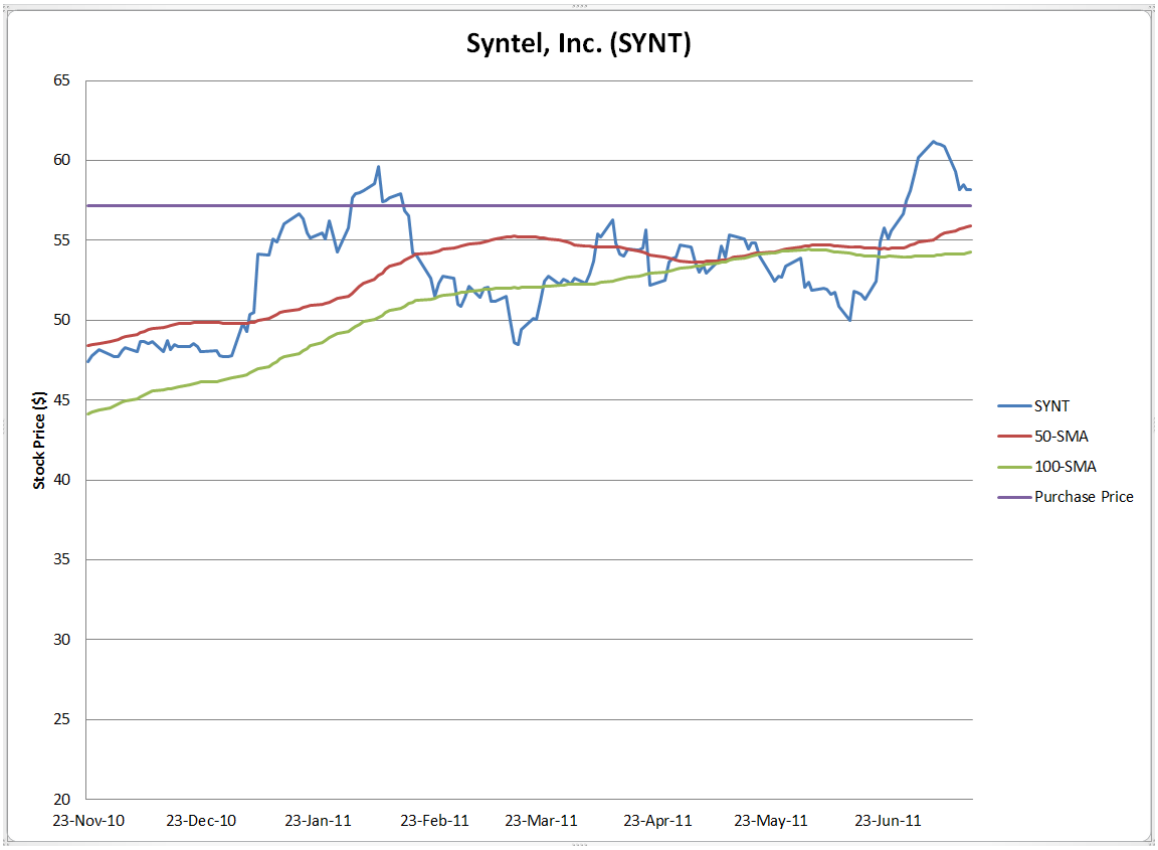


Figure 99 Syntel, Inc. (SYNT) stock price with 50 & 100 day SMA trends

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/11/2011											$10,276.45
7/15/2011	GGG			750			$46.93	$35,197.50			
7/15/2011	VMW			300			$102.67	$30,801.00			
7/15/2011	RBN			200			$52.05	$10,410.00			
7/15/2011	SYNT			175			$58.16	$10,178.00			
								Total Weekly Asset/Cash			**$96,862.95**

Table 22 Stock and cash summary for SMA method week 7

5.9 Trend Following, SMA Method, Week 8

July 18, 2011 – July 22, 2011

This week was further plagued by the political indecision surrounding the talks over the Debt Ceiling issues. With only one more week to go until the deadlines for the Debt Ceiling issue the markets have been fluctuating on a daily basis. Apple and several other major players released their earnings reports this week but these were only able to provide short direction to the markets. The stock and cash summary for week 8 is shown in Table 23.

5.9.1 Graco, Inc. (GGG)

Graco only managed to make up about half the losses of the past week. The stock closed up for the week at $50.18. The chart is shown in Figure 100.

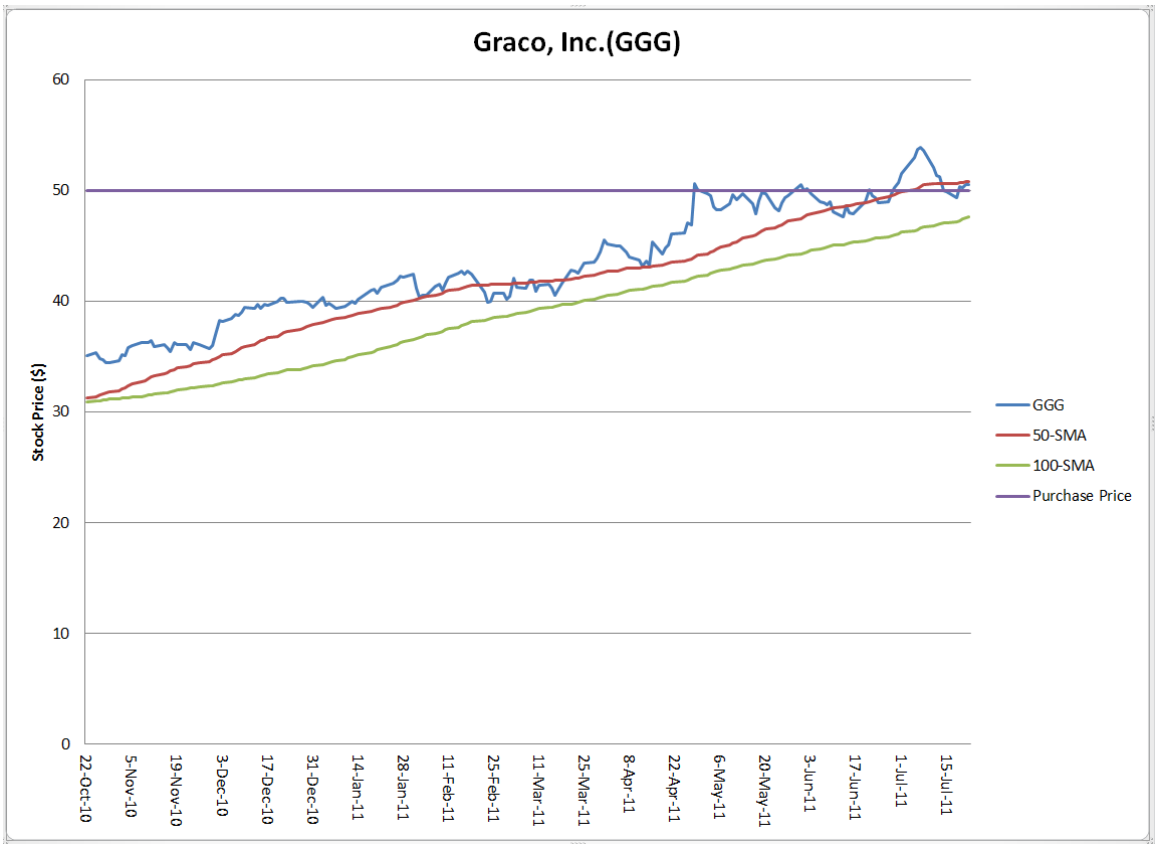


Figure 100 Graco, Inc. (GGG) stock price with 50 & 100 day SMA trends

5.9.2 VMware (VMW)

VMware fluctuated similar to the market indices this week but was able to rally both before and after releasing their earnings statement. The stock closed up at $106.72 and is shown in Figure 101.

Figure 101 VMware (VMW) stock price with 50 & 100 day SMA trends

5.9.3 Robbins & Myers, Inc. (RBN)

Robbins & Myers continued to fluctuate as it did the previous week. The stock closed up at $53.88. The chart is shown in Figure 102.

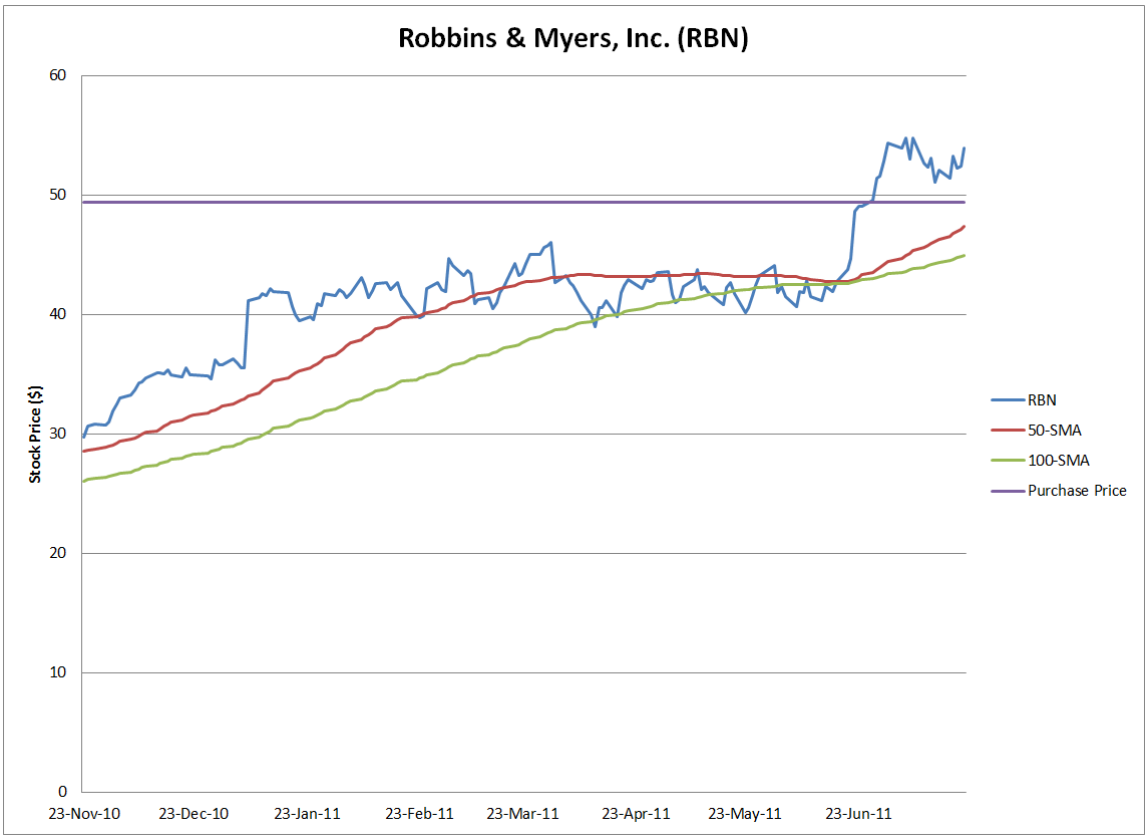


Figure 102 Robbins & Myers (RBN) stock price with 50 & 100 day SMA trends

5.9.4 Syntel, Inc. (SYNT)

Syntel suffered further this week from market fluctuations and closed down at $57.72. The updated chart is shown in Figure 103.

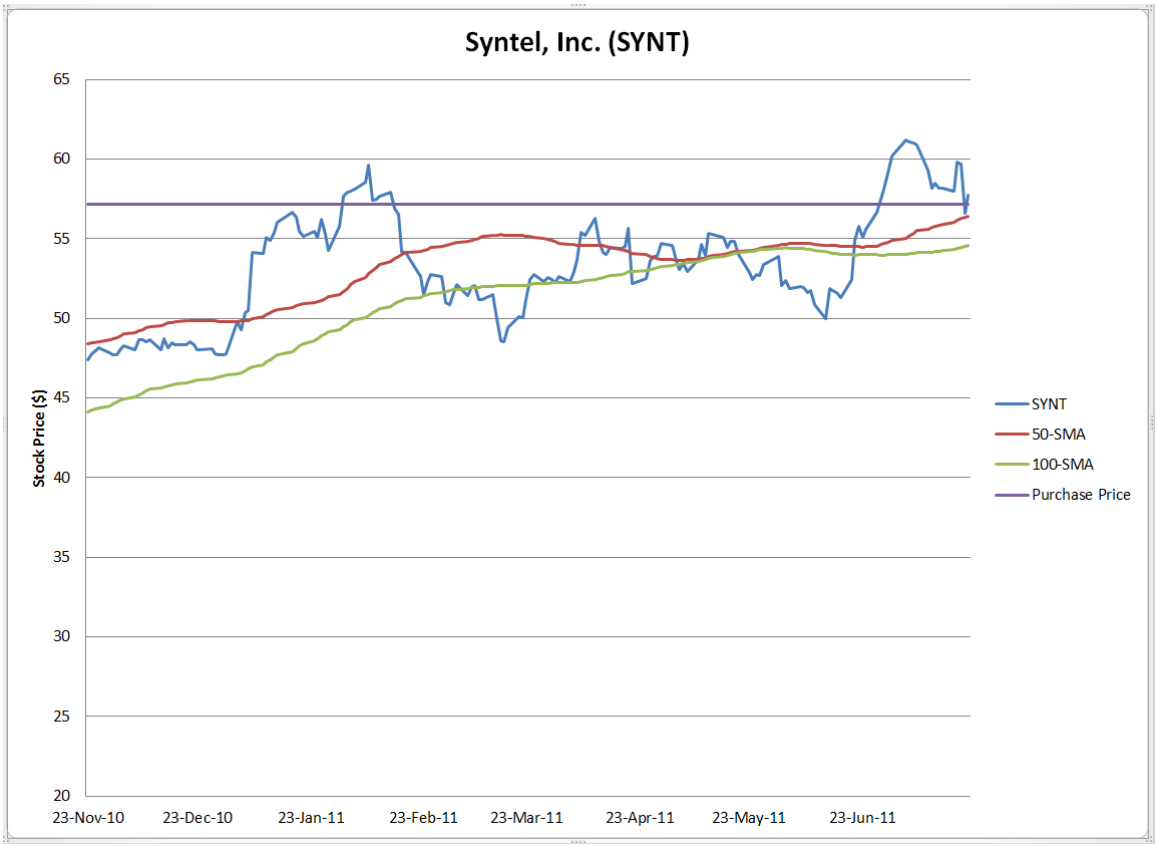


Figure 103 Syntel, Inc. (SYNT) stock price with 50 & 100 day SMA trends

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/18/2011											$10,276.45
7/22/2011	GGG			750			$50.52	$37,890.00			
7/22/2011	VMW			300			$106.72	$32,016.00			
7/22/2011	RBN			200			$53.88	$10,776.00			
7/22/2011	SYNT			175			$57.72	$10,101.00			
								Total Weekly Asset/Cash			**$101,059.45**

Table 23 Stock and cash summary for SMA method week 8

5.10 SMA Method Conclusion

The simulation using the SMA method of trend following was successful with some significant learning's. The week to week performance of the portfolio is shown in Figure 104. During the eight weeks of the simulation there were six trades conducted resulting in an overall gain of $1,059.45.

The first learning point occurred in Week 4. In Week 4 of the simulation I panicked as I saw the China Unicom stock price sliding down towards the 100-SMA line and sold it. This was in violation of the exit guidelines that I had put into place for the simulation and was a purely emotional response. At the end of week 8 the 50 and 100-SMA lines for China Unicom had still not crossed and the most recent closing price was $19.49. If the guidelines had been adhered to I would not have taken a $2,660 loss and the stock would still be in play. This highlights the fact that the guidelines being used were outside of my comfort zone as an investor.

The second learning was that this method does not offer any type of protection for gains. The built-in lag of the two moving averages used allows large price fluctuations with no action. If the upward trend is not long enough, and thereby covering a larger percentage of the cost basis, then when the SMA lines cross again to signify a downward trend the losses will probably outweigh the gains.

This type of trading is more suited to investors that are comfortable with long-term investments and the risk of fluctuations that are inherent in long-term holdings.

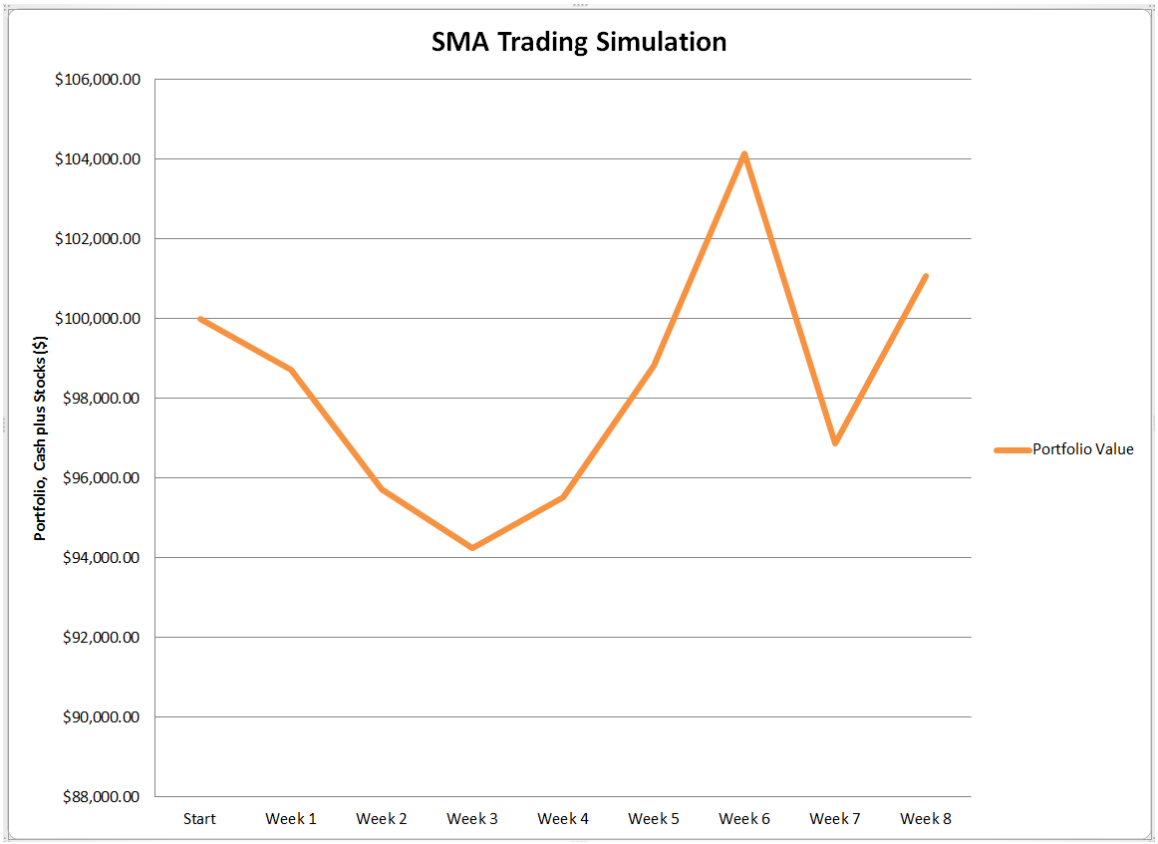


Figure 104 Trend Following SMA method simulation results

Chapter 6: Comparison and Analysis

Each of the three simulation methods used was successful to some degree. The average true range method of trend following simulation ran over a 9 week period and made total gains of $4,831.70. This was a gain of 4.8% compared to gains of 1.4% and .9% in the Dow Jones and S&P 500 markets respectively during the same time period. The simple moving average method of trend following simulation started a week later and ran for an 8 week period. The gains from this method totaled $1,059.45. This is a gain of 1.1% compared to gains of 1.9% and .3% in the Dow Jones and S&P 500 markets respectively during the same time period. The third simulation was the swing trading simulation which started 4 weeks after the first simulation started and ran for 5 weeks. The total gain from this method was $3,746.75. This was a gain of 3.7% compared to gains of 5.6% and 5.8% in the Dow Jones and S&P 500 markets respectively during the same time period. These figures are presented in Table 24.

The ATR method used in this simulation has shown itself to be the best method of beating the average performance of the markets. This is followed by Swing Trading and lastly by the SMA method of trend following.

Each of the methods used has its own strengths and weaknesses. But all of the methods emphasized the need for a proper exit strategy and money management. Having a well defined exit strategy prior to entry into a transaction removes the emotional burden that can be involved in trying to exit a position later on. A predetermined plan of money management can prevent an investor from tying up too much of his available capital in one transaction and not having something available for the next good deal to come along.

Each method also fits its self to a different risk and comfort level of investor. The SMA method offers the least amount of structure and therefore the most amount of risk. The ATR method offers the most amount of control. It has the most rigid guidelines concerning both the entry and exit points of the stock. The swing trading method of trading falls in between the two others in its level of risk. It relies on the investor to choose a level of risk in accordance with his comfort level when setting his exit strategy. It

also provides more risk due to the number of indicators that have to be simultaneously processed in order to make a decision.

	Simulation	DJIA	SPX
ATR	**4.8%**	1.4%	0.9%
Swing	3.7%	5.6%	5.8%
SMA	1.1%	1.9%	0.3%

Table 24 Overall Gains, Comparison to Market Indexes

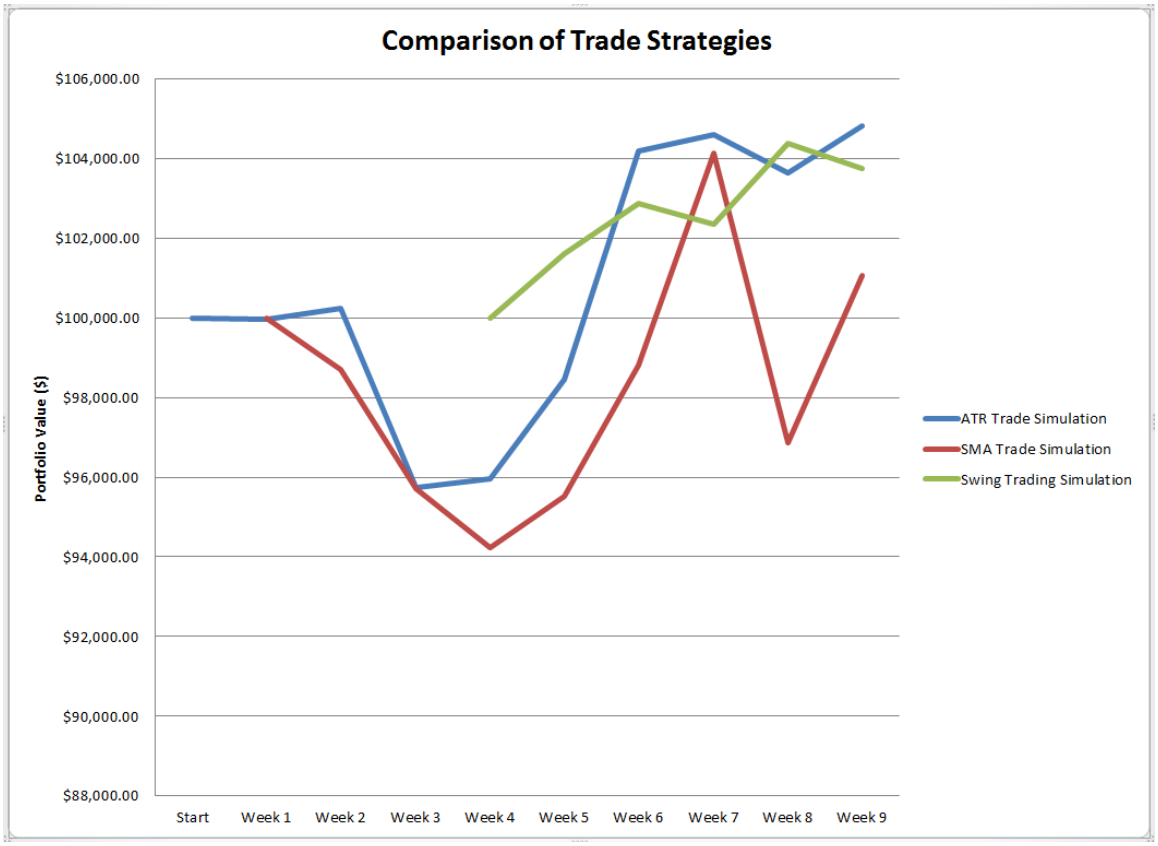


Figure 105 Comparison of the ATR, SMA, and Swing trading strategies

7. Conclusions

In conclusion, this project has been a success. The first goal was to develop an understanding of the stock market as it stands today. This was accomplished through the study of the different trading strategies, stock market indicators, and the changes in the market that have been brought about by the advances in technology. The study of the strategies used in the market provided the insight into how the markets are organized and also what materials, such as charts, media outlets, and news reports are used to monitor them and how to use and interpret those materials. The study of the markets also lead into the study of the indicators used to decipher the trends of stocks. By learning how to interpret the indicators I was able to make intelligent decisions and informed predictions on the behavior of stock movements. The advances in technology over the recent decades have resulted in a much quicker, more responsive market than in the past. Through the use of computers, networks, and automated systems the whole of the trading world has been opened to amateur as well as professional investors. The actions made by these investors now take place at lightning speeds and the resulting changes and trends are able to occur nearly instantaneously across the markets.

The second goal, of conducting a stock trading simulation, was also a success. Three separate simulations were run during a 9 week period. Each simulation used a different strategy of trading. The three strategies were the Swing Trading method, the Average True Range method of trend following, and the Simple Moving Average method of trend following. By running three different strategies through the simulation I was able to learn and practice trading at various risk and comfort levels. The different analysis and decision making processes required by each of the strategies provided many opportunities to compare, contrast, and learn from each method.

From the results of this project I have been able to learn how to research stocks, interpret charts and indicators, and to read and understand the financial and stock information of the companies involved. I was also able to practice and become proficient in trading stocks in the various markets.

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APPENDICES

Appendix A: Weekly Cash and Stock Summaries for Swing Method

Week 1 6/20 - 6/24

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/20/2011											$100,000.00
6/20/2011	AXN	Buy	$1.00	5000	$9.95	$5,009.95					$94,990.05
6/24/2011	AXN	Sell	$1.33	5000	$9.95	$6,659.95			1,650.00		$101,650.00
6/24/2011	IPAR	Buy	$21.69	500	$9.95	$10,854.95					$90,795.05
6/24/2011	IPSU	Buy	$20.21	500	$9.95	$10,114.95					$80,680.10
6/24/2011	IPAR			500			$22.06	$11,030.00			
6/24/2011	IPSU			500			$19.82	$9,910.00			
								Total Weekly Asset/Cash			$101,620.10

Week 2 6/27 - 7/1

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/27/2011											$80,680.10
6/28/2011	USG	Buy	$14.25	700	$9.95	$9,984.95					$70,695.15
6/28/2011	IRF	Buy	$27.27	400	$9.95	$10,917.95					$59,777.20
7/1/2011	IRF			400			$28.52	$11,408.00			
7/1/2011	USG			700			$14.61	$10,227.00			
7/1/2011	IPAR			500			$23.30	$11,650.00			
7/1/2011	IPSU			500			$19.61	$9,805.00			
								Total Weekly Asset/Cash			$102,867.20

Week 3 7/5 - 7/8

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/5/2011											$59,777.20
7/5/2011	IPSU	Sell	$19.21	500	$9.95	$9,595.05			(519.90)		$69,372.25
7/6/2011	USG	Sell	$14.15	700	$9.95	$9,895.05			(89.90)		$79,267.30
7/7/2011	ALLT	Buy	$18.09	500	$9.95	$9,054.95					$70,212.35
7/7/2011	JEF	Short	$21.17	200	$9.95	$4,243.95					$70,202.40
7/7/2011	FSCI	Buy	$29.85	300	$9.95	$8,964.95					$61,237.45
7/8/2011	ALLT			500			$17.65	$8,825.00			
7/8/2011	JEF			200			$20.98				
7/8/2011	FSCI			300			$29.65	$8,895.00			
7/8/2011	IRF			400			$28.22	$11,288.00			
7/8/2011	IPAR			500			$24.20	$12,100.00			
								Total Weekly Asset/Cash			$102,345.45

Week 4 7/11 - 7/15

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/11/2011											$61,237.45
7/11/2011	IRF	Sell	$27.79	400	$9.95	$11,106.05			188.10		$72,343.50
7/13/2011	ISTA	Buy	$8.00	1500	$9.95	$12,009.95					$60,333.55
7/13/2011	ZAGG	Buy	$14.00	2000	$9.95	$28,009.95					$32,323.60
7/15/2011	IPAR	Sell	$23.50	500	$9.95	$11,740.05			885.10		$44,063.65
7/15/2011	ISTA			1500			$7.91	$11,865.00			
7/15/2011	ZAGG			2000			$15.32	$30,640.00			
7/15/2011	ALLT			500			$17.63	$8,815.00			
7/15/2011	JEF			200			$20.48				
7/15/2011	FSCI			300			$29.96	$8,988.00			
								Total Weekly Asset/Cash			**$104,371.65**

Week 5 7/18 - 7/22

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
7/18/2011											$44,063.65
7/19/2011	ZAGG	Sell	14.88	2000	9.95	29750.05			1,740.10		$73,813.70
7/20/2011	JEF	Buy-to-cover	$20.04	200	$9.95	$4,017.95			226.00		$74,039.70
7/20/2011	FSCI	Sell	$29.24	300	$9.95	$8,762.05			(202.90)		$82,801.75
7/22/2011	ALLT			500			$17.83	$8,915.00			
7/22/2011	ISTA			1500			$8.02	$12,030.00			
								Total Weekly Asset/Cash			**$103,746.75**

Appendix B: Weekly Cash and Stock Summaries for the ATR Method

Week 1 5/23 - 5/27

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
5/23/2011											$100,000.00
5/23/2011	MAKO	Buy	$32.06	1000	$9.95	$32,060.00					$67,930.05
5/24/2011	AAN	Buy	$27.19	600	$9.95	$16,314.00					$51,606.10
5/26/2011	ANSS	Buy	$57.13	400	$9.95	$22,852.00					$28,744.15
							Total Weekly Asset/Cash				**$99,970.15**

Week 2 5/30 - 6/3

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/3/2011											$28,744.15
6/3/2011	MAKO			1000			$33.06	$33,060.00			
6/3/2011	AAN			600			$27.60	$16,560.00		$6.00	
6/3/2011	ANSS			400			$54.69	$21,876.00			
								Total Weekly Asset/Cash			**$100,246.15**

Week 3 6/6 - 6/10

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/6/2011											$28,744.15
6/6/2011	ANSS	Sell	$54.72	400	$9.95	$21,878.05			($973.95)		$50,622.20
6/6/2011	HANS	Buy	$72.75	300	$9.95	$21,834.95					$28,787.25
6/8/2011	MAKO	Sell	$30.38	1000	$9.95	$30,370.05			($1,689.95)		$59,157.30
6/9/2011	AAN	Sell	$25.20	600	$9.95	$15,110.05			($1,203.95)		$74,267.35
6/10/2011	HANS			300			$71.59	$21,477.00			
								Total Weekly Asset/Cash			**$95,744.35**

Week 4 6/13 - 6/17

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/13/2011											$74,267.35
6/17/2011	HANS			300			$72.31	$21,693.00			
								Total Weekly Asset/Cash			**$95,960.35**

Week 5 6/20 - 6/24

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/20/2011											$74,267.35
6/20/2011	WPI	Buy	$63.70	150	$9.95	$9,564.95					$64,702.40
6/20/2011	CSH	Buy	$51.58	200	$9.95	$10,325.95					$54,376.45
6/24/2011	HANS			300			$78.05	$23,415.00			
6/24/2011	WPI			150			$65.66	$9,849.00			
6/24/2011	CSH			200			$54.07	$10,814.00			
								Total Weekly Asset/Cash			**$98,454.45**

Week 6	6/20 - 6/24										
Date	**Symbol**	**Buy/Sell**	**Buy/Sell Price**	**Shares**	**Commission**	**Net Cost/ Proceeds**	**Closing Price**	**Asset Value**	**Realized Gain/Loss**	**Dividend**	**Cash on Hand**
6/27/2011											$54,376.45
6/27/2011	DLTR	Buy	$65.61	400	$9.95	$26,253.95					$28,122.50
6/27/2011	PEET	Buy	$56.28	450	$9.95	$25,335.95					$2,786.55
7/1/2011	HANS			300			$83.63	$25,089.00			
7/1/2011	WPI			150			$69.85	$10,477.50			
7/1/2011	CSH			200			$59.06	$11,812.00			
7/1/2011	DLTR			400			$68.23	$27,292.00			
7/1/2011	PEET			450			$59.42	$26,739.00			
								Total Weekly Asset/Cash			**$104,196.05**
Week 7	7/5 - 7/8										
Date	**Symbol**	**Buy/Sell**	**Buy/Sell Price**	**Shares**	**Commission**	**Net Cost/ Proceeds**	**Closing Price**	**Asset Value**	**Realized Gain/Loss**	**Dividend**	**Cash on Hand**
7/5/2011											$2,786.55
7/6/2011	CSH	Sell	$57.31	200	$9.95	$11,452.05			$1,126.10		$14,238.60
7/8/2011	HANS	Sell	$80.16	300	$9.95	$24,038.05			$2,203.10		$38,276.65
7/8/2011	WPI			150			$69.85	$10,477.50			
7/8/2011	DLTR			400			$69.88	$27,952.00			
7/8/2011	PEET			450			$62.01	$27,904.50			
								Total Weekly Asset/Cash			**$104,610.65**
Week 8	7/11 - 7/15										
Date	**Symbol**	**Buy/Sell**	**Buy/Sell Price**	**Shares**	**Commission**	**Net Cost/ Proceeds**	**Closing Price**	**Asset Value**	**Realized Gain/Loss**	**Dividend**	**Cash on Hand**
7/11/2011											$38,276.65
7/11/2011	ARIA	Buy	$12.22	1000	$9.95	$12,229.95					$26,046.70
7/15/2011	ARIA			1000			$12.58	$12,580.00			
7/15/2011	WPI			150			$69.00	$10,350.00			
7/15/2011	DLTR			400			$68.83	$27,532.00			
7/15/2011	PEET			450			$60.31	$27,139.50			
								Total Weekly Asset/Cash			**$103,648.20**
Week 9	7/18 - 7/22										
Date	**Symbol**	**Buy/Sell**	**Buy/Sell Price**	**Shares**	**Commission**	**Net Cost/ Proceeds**	**Closing Price**	**Asset Value**	**Realized Gain/Loss**	**Dividend**	**Cash on Hand**
7/18/2011											$26,046.70
7/22/2011	WPI			150			$70.48	$10,572.00	$1,007.05		
7/22/2011	DLTR			400			$68.76	$27,504.00	$212.00		
7/22/2011	PEET			450			$60.82	$27,369.00	$630.00		
7/22/2011	ARIA			1000			$13.34	$13,340.00	$1,110.05		
								Total Weekly Asset/Cash			**$104,831.70**

Appendix C: Weekly Cash and Stock Summaries for the SMA Method

Week 1 5/30 - 6/3

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
5/30/2011											$100,000.00
5/31/2011	GGG	Buy	$50.01	750	$9.95	$37,517.45					$62,482.55
5/31/2011	CHU	Buy	$22.01	1000	$9.95	$22,019.95					$40,462.60
5/31/2011	VMW	Buy	$96.98	300	$9.95	$29,103.95					$11,358.65
6/3/2011	GGG			750			$50.01	$37,507.50			
6/3/2011	CHU			1000			$21.35	$21,350.00			
6/3/2011	VMW			300			$94.99	$28,497.00			
								Total Weekly Asset/Cash			**$98,713.15**

Week 2 6/6 - 6/10

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/6/2011											$11,358.65
6/10/2011	GGG			750			$48.11	$36,082.50			
6/10/2011	CHU			1000			$20.24	$20,240.00			
6/10/2011	VMW			300			$93.46	$28,038.00			
								Total Weekly Asset/Cash			**$95,719.15**

Week 3 6/13 - 6/17

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/13/2011											$11,358.65
6/17/2011	GGG			750			$48.15	$36,112.50			
6/17/2011	CHU			1000			$19.53	$19,530.00			
6/17/2011	VMW			300			$90.79	$27,237.00			
								Total Weekly Asset/Cash			**$94,238.15**

Week 4 6/20 - 6/24

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/20/2011											$11,358.65
6/24/2011	GGG			750			$48.85	$36,637.50			
6/24/2011	CHU			1000			$19.24	$19,240.00			
6/24/2011	VMW			300			$94.24	$28,272.00			
								Total Weekly Asset/Cash			**$95,508.15**

Week 5 6/27 - 7/1

Date	Symbol	Buy/Sell	Buy/Sell Price	Shares	Commission	Net Cost/ Proceeds	Closing Price	Asset Value	Realized Gain/Loss	Dividend	Cash on Hand
6/27/2011											$11,358.65
6/27/2011	CHU	Sell	$19.37	1000	$9.95	$19,360.05			($2,659.90)		$30,718.70
6/27/2011	RBN	Buy	$49.40	200	$9.95	$9,889.95					$20,828.75
6/28/2011	SYNT	Buy	$57.15	175	$9.95	$10,011.20					$10,817.55
7/1/2011	GGG			750			$48.85	$36,637.50			
7/1/2011	VMW			300			$99.90	$29,970.00			
7/1/2011	RBN			200			$54.34	$10,868.00			
7/1/2011	SYNT			175			$60.17	$10,529.75			
								Total Weekly Asset/Cash			**$98,822.80**

Week 6	7/5 - 7/8										
Date	**Symbol**	**Buy/Sell**	**Buy/Sell Price**	**Shares**	**Commission**	**Net Cost/ Proceeds**	**Closing Price**	**Asset Value**	**Realized Gain/Loss**	**Dividend**	**Cash on Hand**
6/27/2011											$10,817.55
7/1/2011	GGG			750			$53.62	$40,215.00			
7/1/2011	VMW			300			$105.00	$31,500.00			
7/1/2011	RBN			200			$54.77	$10,954.00			
7/1/2011	SYNT			175			$60.86	$10,650.50			
								Total Weekly Asset/Cash			**$104,137.05**
Week 7	7/11 - 7/15										
Date	**Symbol**	**Buy/Sell**	**Buy/Sell Price**	**Shares**	**Commission**	**Net Cost/ Proceeds**	**Closing Price**	**Asset Value**	**Realized Gain/Loss**	**Dividend**	**Cash on Hand**
7/11/2011											$10,276.45
7/15/2011	GGG			750			$46.93	$35,197.50			
7/15/2011	VMW			300			$102.67	$30,801.00			
7/15/2011	RBN			200			$52.05	$10,410.00			
7/15/2011	SYNT			175			$58.16	$10,178.00			
								Total Weekly Asset/Cash			**$96,862.95**
Week 8	7/18 - 7/22										
Date	**Symbol**	**Buy/Sell**	**Buy/Sell Price**	**Shares**	**Commission**	**Net Cost/ Proceeds**	**Closing Price**	**Asset Value**	**Realized Gain/Loss**	**Dividend**	**Cash on Hand**
7/18/2011											$10,276.45
7/22/2011	GGG			750			$50.52	$37,890.00			
7/22/2011	VMW			300			$106.72	$32,016.00			
7/22/2011	RBN			200			$53.88	$10,776.00			
7/22/2011	SYNT			175			$57.72	$10,101.00			
								Total Weekly Asset/Cash			**$101,059.45**